Yale Medicine YALE UNIVERSITY, 1 CHURCH STREET, SUITE 300, NEW HAVEN CT 06510
yalemedicine.yale.edu
autumn 2012

Yale Medicine

Cancer treatment of the future 6

Yale doctors around the world 16

Medicine and human rights in Uganda 26

autumn 2012

"A gentle man"

Arthur Ebbert Jr.'s friends and colleagues recall his graciousness and unfailing courtesy.

12

yale medicine

AUTUMN 2012

CONTENTS

2 Letters
4 Chronicle
8 Books & Ideas
10 Capsule

12 **"A gentle man"**
Arthur Ebbert Jr.'s friends and colleagues recall his graciousness and unfailing courtesy.
By Natalie Villacorta

16 **Yale doctors around the world**
Since the days of Peter Parker, alumni have brought health care to underserved regions of the world.
By Jenny Blair, M.D. '04

24 Faculty
26 Students
28 Alumni
32 In Memoriam
33 End Note

ON THE COVER This portrait of Arthur Ebbert by William F. Draper hangs in the Jane Ellen Hope Building as a tribute to the man who served as the medical school's first deputy dean.

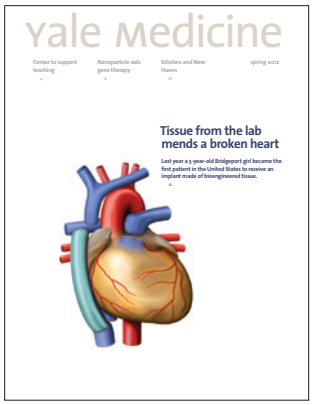
Photo by Carl Kaufman

THIS PAGE An aerial view of the medical school campus as it appeared in the 1960s during Arthur Ebbert's tenure as deputy dean.

Manuscripts & Archives

On the Web
yalemedicine.yale.edu

On our website, readers can submit class notes or a change of address, check the alumni events calendar, arrange for a lifelong Yale e-mail alias through the virtual Yale Station, and search our electronic archive.



How to reach us

Yale Medicine welcomes news and commentary. Please send letters (350 words or fewer) and news items to *Yale Medicine*, 1 Church Street, Suite 300, New Haven, CT 06510, or via e-mail to ymm@yale.edu, and include a telephone number. Submissions may be edited for length, and content.

Visit us on the web

Our new website is up and running—and the feedback has been wonderful! Visit us at yalemedicine.yale.edu and peruse the newest issue or issues going back to 1998.

Correction

An alumni note in the Spring 2012 issue incorrectly stated that Carolyn Goldberg, M.D. '10, and Philip Butler, M.D. '10, completed residencies at the University of Wisconsin. Goldberg completed an internship in plastic and reconstructive surgery there and will start an anesthesiology residency at Brigham and Women's Hospital next year. Butler is a resident in radiology at Brigham and Women's Hospital in Boston.

Tom Forbes remembered

When I was in medical school one of our anatomy professors, Tom Forbes, taught an optional course about the history of anatomy. It was held once a week at lunch time. Professor Forbes would bring wonderful butter cookies that his wife had baked, and we would listen to him talk about Vesalius and the other great anatomists while eating cookies. He would pass around the original anatomy books from the Cushing Collection for us to examine during class. It was one of the real highlights of the first two years of medical school.

Albert Ungricht, M.D. '82
Salt Lake City

Kudos for *Yale Medicine*

Yale Medicine received four awards from the New England chapter of the American Medical Writers Association in January. Will Solimene Awards for Excellence went to Jenny Blair, M.D. '04, for "From Cedar Street to Capitol Hill," Winter 2010; to Jill Max for "Improving the Lot of Women in Medicine," Autumn 2010, and "Medicine and the Military," Spring 2011; and to Colleen Shaddox, for "Is the Physician-Scientist an Endangered Species?," Autumn 2011. Congratulations to all three for their outstanding work.

In search of ... YSM class photos!

The School of Medicine's Alumni Office and the Historical Library are hoping to fill gaps in our collection of class photos. If you have a Commencement or White Coat Ceremony photo for one of the classes listed below, please contact Melissa Grafe, PH.D., the John R. Bumstead Librarian for Medical History, Cushing/Whitney Medical Library, at 203-785-4354 or melissa.grafe@yale.edu. We will scan and return original photos.

We are looking for images from these classes: 1962, 1965, 1981, 1982, 1983, 1986, 1987, 1988, 2003, 2004, 2006, 2007, 2008, and 2009.

A modest man remembered

Arthur Ebbert Jr., M.D., would by all accounts be embarrassed by the issue of *Yale Medicine* that you hold in your hands. His friends and colleagues remember Ebbert, who died on June 7, as unassuming, gracious, and modest—a man who preferred the background to the limelight. As our writer Natalie Villacorta interviewed people who knew Ebbert, time and again they cautioned that he would have eschewed such attention. We hope, however, that he would have appreciated this acknowledgement of his contributions to the School of Medicine and to this magazine, which he founded in 1953 as the *Alumni Bulletin*.

People remember Arthur Ebbert for who he was as much as for what he did. He seemed to know everything about the school, and everyone knew him and knew they could count on him. " 'Ask Art' was the motto," recalled John E. Fenn, M.D. '61, HS '67, clinical professor of surgery (vascular). "Anybody could approach (him) with any kind of problem, and if he didn't solve it, he knew how to give you advice to go about seeking a solution."

Ebbert felt that the school needed a publication that would keep alumni informed of relevant events, including new buildings on campus, advances in medicine and science, and new methods for teaching medical students. From 1953 until 1966 the magazine was an eight-page newsletter; then it adopted the magazine format you see today. In 1986, our current editor in chief, Michael Kashgarian, M.D. '58, HS '63, FW '65, took on that post when Ebbert retired. Although we hadn't heard the motto "Ask Art," over the years we did indeed turn to him many times to learn aspects of the history of the medical school. He will be missed.

In this issue we also continue our series on alumni career paths with an article on those who have devoted significant portions of their careers to underserved communities around the world. As it happens, our two alumni profiles in this issue also focus on people who have spent time abroad.

We hope you enjoy our autumn issue.

John Curtis
Editor

SECOND OPINION BY SIDNEY HARRIS

Yale Medicine
Alumni Bulletin of the Yale University School of Medicine
Autumn 2012, Volume 47, No. 1

Editor in Chief
Michael Kashgarian, M.D. '58, HS '63, FW '65
Professor Emeritus of Pathology and Senior Research Scientist

Editor
John Curtis

Contributing Editors
Peter Farley, Jenny Blair, M.D. '04, Karen Peart, Cathy Shufro, Marc Wortman, PH.D.

Contributors
Sonya Collins, Terry Dagradi, Charles Gershman, Christopher Hoffman, Steve Kemper, Natalie Villacorta

Design
Jennifer Stockwell

Copy Editors
Rebecca Frey, PH.D., Anne Sommer

Mailing List Inquiries
Claire M. Bessinger
Communications Coordinator

Cheryl R. Violante
Website Coordinator

Printing
The Lane Press

Yale Medicine is distributed to alumni, faculty, students, and friends of the School of Medicine.

Abbreviations used in *Yale Medicine* include HS to denote the final year of residency for house staff, FW for the final year of a fellowship, and YNHH for Yale-New Haven Hospital.

Yale Medicine is the alumni magazine of the Yale University School of Medicine.

ADDRESS CORRESPONDENCE TO
Editor, *Yale Medicine*
1 Church Street, Suite 300
New Haven, CT 06510-3330
Telephone: 203-785-5824
Facsimile: 203-785-4327
E-mail: ymm@yale.edu
Website: yalemedicine.yale.edu

Unleashing the immune system against cancer

A multicenter trial finds a way to thwart cancer's hijacking of a protective immune response.

A multicenter team that included Yale scientists has reported one of the first significant successes in harnessing the immune system to fight cancer. In an early clinical trial of a new cancer drug, the scientists said in a report published on June 2 in the *New England Journal of Medicine*, tumors regressed significantly in between 20 and 33 percent of patients with non-small-cell lung cancer, kidney cancer, or melanoma.

The response in lung cancer patients was remarkable, said Mario Sznol, M.D., professor of medicine, because immunotherapies had generally been effective only in melanoma and kidney cancers. (For reasons that are not fully understood, the small number of patients with colorectal or prostate cancer in the trial—which had 296 patients—did not respond to the drug.) The patients in this trial had already received heavy doses of therapies that likely depleted their immune systems. If administered to patients with less prior treatment, the drug should be even more effective, said Lieping Chen, M.D., PH.D., professor of immunobiology, of dermatology, and of medicine. The study, said Sznol, also found consistent, durable regression of cancers: 20 of 31 responses that were tracked lasted for at least a year—a result rarely observed with traditional chemotherapy or forms of therapy that target specific characteristics of tumors. The drug, BMS-936558, which was developed by Bristol-Myers Squibb, acts by blocking a protein that tumors use to disable the body's immune system, and represents a new approach to cancer therapy. "We're just at the beginning of a paradigm shift in the treatment of cancer," said Sznol.

Since similar results were seen at all nine centers participating in the trial, Sznol considers it highly unlikely that the drug's effectiveness is a fluke. Scott N. Gettinger, M.D., associate professor of medicine, who recruited lung cancer patients for the trial, said that the response in those patients "opens the door to looking at other solid tumors." Most of his patients had few or none of the side effects often associated with chemotherapy—hair loss, drops in blood-cell counts, altered taste, and profound fatigue. "This is the best-tolerated drug I have ever given to patients with lung cancer," Gettinger said.

The new drug has its roots in the labors of Chen, who was training to be an oncologist in the 1980s. The lack of effective cancer treatments made it a depressing job. "That's why I quit clinical practice," Chen said. He shifted to research, focusing on the role of the immune system in cancer.

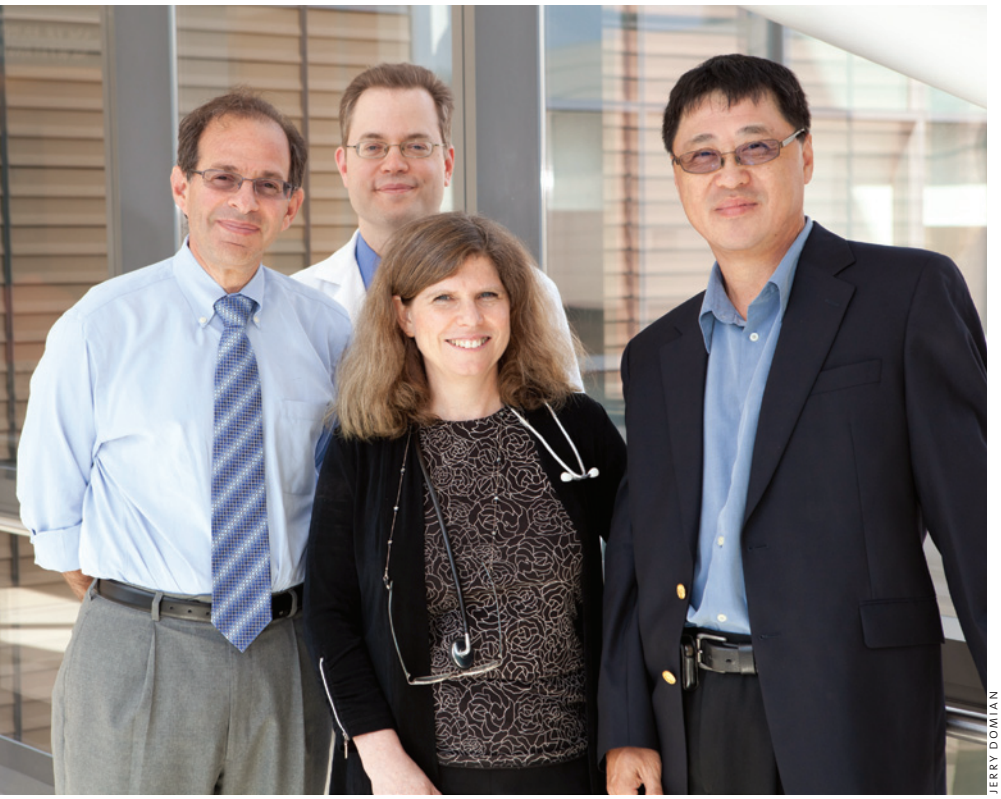
For decades scientists have sought to understand why the human immune system sits on the sidelines when cancer invades the body, and how to provoke it to attack cancer cells. Such an approach could target the disease while sparing normal cells, resulting in greater effectiveness and fewer side effects. And because the immune system "remembers" invaders it has encountered, the response to immunotherapy should be long-lasting.

A decade's research by Chen and colleagues at other institutions found that the interactions of certain proteins and receptors allow tumor cells to disable T cells, the immune system's main fighters. The tumor cells, Chen said, take advantage of a mechanism that the body uses to prevent damage from prolonged immune responses. In 1991 Chen, then at the Mayo Clinic, discovered B7-H1, a protein that can suppress T cells. Nine years later researchers from Harvard Medical School's Dana-Farber Cancer Institute and the University of Kyoto found that B7-H1 binds to programmed death 1 (PD-1), a receptor on the surface of T cells. Scientists renamed the B7-H1 protein, calling it PD-L1 to reflect its role as a binding partner for PD-1. Tissues use PD-L1 to turn off the immune response when it's gone on too long; and, Chen found, PD-L1 is overexpressed in many human tumors.

"Cancer steals this mechanism," said Chen. Cancer triggers an immune response, which sends T cells to attack the tumor. The tumor, in response to signaling molecules from the T cells, expresses PD-L1, which binds to PD-1 and suppresses the T cells. BMS-936558 blocks the PD-1 binding site and keeps PD-L1 at bay.

Tests on tumor samples from the recent trial revealed that tumors that did not express PD-L1 did not respond to treatment, while 36 percent of PD-L1-positive tumors showed a response. That suggests that PD-L1 may serve as a biomarker to identify patients who will benefit from anti-PD-1 drugs. There are side effects of PD-1 blockage—in the current trial, three patients died of drug-related lung inflammation—but Chen thinks that adverse effects can be managed.

Jedd D. Wolchok, M.D., PH.D., of Memorial Sloan-Kettering Cancer Center, who was not involved in the current trial, said that the new results are encouraging for the potential of immunotherapy in the treatment of



JERRY DOMIAN

Mario Sznol, Scott Gettinger, Harriet Kluger, and Lieping Chen participated in a nine-center clinical trial of a drug that disarms a molecular defense mechanism mounted by tumors.

cancer. Following the success of the drug ipilimumab, which also blocks a molecule expressed on the surface of T cells, the findings are the second clear demonstration that unleashing the immune system can produce durable regressions in cancer.

Although BMS-936558 was effective when used alone, the Yale researchers believe that it will be most useful when combined with other therapies.

"I have patients who have benefited enormously from this drug," Sznol said. And while current treatments prolong life for months or a couple of years, Sznol said, "these new therapies may eventually offer the possibility of cure."

—*Natalie Villacorta*

et cetera . . .

ACCESS TO FOOD IMPROVES

Healthier foods are more available in neighborhood stores in underserved communities since revisions in 2009 to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), according to a study by the Rudd Center for Food Policy and Obesity published in the *Journal of the Academy of Nutrition and Dietetics* in June.

The researchers assessed the variety, quality, and prices of WIC-approved foods in 252 convenience stores and non-chain grocery stores in Connecticut before and after the revisions. Access to whole-grain products and fresh produce improved, particularly in low-income communities.

"If the experience in Connecticut is typical of other states," said lead author Tatiana Andreyeva, PH.D., the center's director of economic initiatives, "national food policy programs that promote consumption of healthy foods but also require changes in stores can help to improve local food environments."

—*John Curtis*

BLOCKING LUNG DISEASE

A Yale-led team of scientists has uncovered a signaling pathway that promotes cell migration in certain forms of pulmonary fibrosis, a deadly lung disease, and may also be used by cancer cells in metastasis. The findings appeared in May's advance online publication of *Nature Cell Biology*.

There are no known cures or treatments for pulmonary fibrosis—the development of excessive fibrous connective tissue in the lungs. The members of the Yale team found that by inhibiting certain proteins they could block signaling pathways that cancer cells and connective tissue cells need for migration.

"Our ability to block the pathway provides a potential therapeutic target for treating pulmonary fibrosis and other types of fibrosis," said senior author Dianqing (Dan) Wu, PH.D., professor of pharmacology. "Because cancer cells, particularly melanoma and lung cancer cells containing activated *BRAF* genetic mutations, can use this signaling pathway to migrate, blocking this pathway could also prevent metastasis of these cancers."

—*J.C.*

Molecular profiling of tumors is cancer treatment of the future

In May 2011, Marvin B. Brooks, M.D., HS '68, a urologist in Palm Springs, Calif., developed severe back pain while performing surgery. X-rays revealed lung cancer that had spread to his liver and vertebrae. He had never smoked.

His oncologist told him that 10 percent of nonsmokers with lung cancer have a mutation in their epidermal growth factor receptor gene (*EGFR*). If Brooks fell within this category, he might be a candidate for an experimental therapy. The top expert in this field, added the oncologist, is Roy S. Herbst, M.D., PH.D., professor of medicine (medical oncology) and of pharmacology, chief of medical oncology, and associate director for translational research at Yale. A week later Brooks was in New Haven, and in the same hospital in which he had previously operated and in which his son was born, he had a liver biopsy that went to Yale's new Molecular Tumor Profiling Laboratory.

Confirming the oncologist's supposition, the lab detected one of the *EGFR* mutations that seems to be a driver of many lung cancers. Instead of standard chemotherapy, Herbst recommended one daily pill of the experimental drug erlotinib (Tarceva), a reversible tyrosine-kinase inhibitor that targeted the *EGFR* mutation in Brooks' tumor. In October 2011, in January 2012, and again in April 2012, Brooks tested free of cancer. Furthermore, Tarceva eliminated all detectable cancer without inflicting the debilitating side effects associated with chemotherapy.

"I went to Yale thinking I would be dead within a year," said Brooks.

That's the sort of story Yale Cancer Center Director Thomas J. Lynch, M.D. '86, envisioned when he pushed for the profiling lab, which opened in the fall of 2010. "I think cancer treatment in the future will be based entirely on detailed molecular profiling," said Lynch. "This is what everyone will be doing."

Analysis from the Profiling Lab often identifies patients as candidates for new drugs that foil known cancer-causing mutations, thereby changing the course of therapy. "In oncology, these drugs have been shockers," said lab director Jeffrey L. Sklar, M.D. '77,

PH.D. '77, professor of pathology and of laboratory medicine, "because they have had such a dramatic effect on tumors that have heretofore been highly resistant to therapy."

"Right now, in about 20 percent of my patients with lung cancer," said Herbst, "I find some mutation that will let me give a patient a specific oral drug that is much more effective and less toxic than the standard of care. We are working hard to figure out something new for the other 80 percent."

The Profiling Lab also identifies mutations associated with other cancers. About half of all melanoma patients have a mutation in a gene called *BRAF* that responds to a new drug. Other mutations detected by the lab are associated with colon and breast cancer. The lab can currently screen for 66 mutations, each of which requires its own test, all run in a parallel and high-throughput fashion. However, the profiling lab is about to shift to the so-called "next generation" of genomic sequencing, which will detect all 66 mutations with one test. "Genomic sequencing will let us look at many genes all at once and expand indefinitely the number of mutations for which we can routinely screen," said Sklar. "Very soon, we're going to be profiling the full set of clinically relevant mutations within the tumor of every cancer patient who walks through the door of Smilow Cancer Hospital."

The field is accelerating on all fronts. New clinical research and faster sequencing require new developments in software and hardware to process, analyze, and store more and more information. Efforts to develop and utilize these tools are under way at the Yale Center for Genome Analysis, located at West Campus. "Over the next 10 years," said Richard P. Lifton, M.D., PH.D., chair and Sterling Professor of Genetics, and a Howard Hughes Medical Institute investigator, "we'll understand the genetic landscape of all the major human cancers, and we will increasingly be using molecular profiling to select treatment for individual patients. Five years ago we really did not imagine we would be capable of doing the things we're doing routinely today."

—Steve Kemper

et cetera . . .

ACID MAKES BACTERIUM DEADLY

***Salmonella*, which kills hundreds of thousands of people each year, turns virulent when it senses that its environment has turned acidic and triggered an increase in its energy level, according to a report in the June 13 issue of the journal *Nature* by researchers from the School of Medicine and the Yale Microbial Diversity Institute.**

This mechanism may present a novel target for drugs that can disarm *Salmonella*'s ability to cause disease, said Eduardo A. Groisman, PH.D., professor of microbial pathogenesis and a Howard Hughes Medical Institute investigator. Groisman and associate research scientist Eun-Jin Lee, PH.D., tracked the signal transduction cascade that enables *Salmonella* to survive within the host's immune cells. Changes in the level of acidity raise ATP levels in the bacterium and trigger a key virulence gene.

"There will never be a world without *Salmonella* because it exists in many, many animal reservoirs," Groisman said. "It is a major public health issue."

—John Curtis

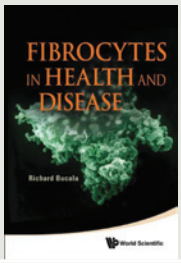
GENES AND HIGHER BRAIN FUNCTIONS

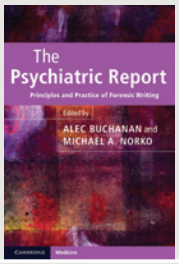
A pattern of gene activity in the language and decision-making centers of the human brain is missing in Fragile X syndrome, a disorder associated with autism and learning disabilities, according to a study by Yale researchers published in the May 11 issue of the journal *Cell*.

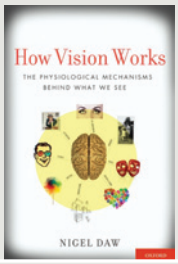
The researchers identified evolutionary changes that led the gene *NOS1* to become active and produce a protein product in the parts of the developing brain that form the centers for those higher functions in adults. A protein that controls this activity is missing in Fragile X syndrome, the leading inherited form of intellectual disability among boys and the most common single-gene cause of autism. People with Fragile X syndrome have lower IQs, a high rate of attention-deficit/hyperactivity disorder, and delays in speech and language development.

"The same evolutionary mechanisms that may have gifted our species with amazing cognitive abilities have also made us more susceptible to psychiatric disorders such as autism," said senior author Nenad Sestan, M.D., PH.D. '99, professor of neurobiology.

—J.C.







A "sick care" system

A physician argues that the United States lacks a vision for providing health care.

The United States makes a fundamental error in its management of health, argues Stephen C. Schimpff, M.D., '67, HS '69. The nation leads the world in spending for medical care but lags in quality because it lacks a health care system. Instead, he writes, the United States has a "sick care" system, one "that waits until we become ill before it kicks into action."

In his new book, *The Future of Health-Care Delivery*, the former CEO of the University of Maryland Medical Center evaluates the American system of medical care, describes trends that will influence medicine in the coming decades, and explains why we spend so much. Then he suggests changes.

The Future of Health-Care Delivery

Schimpff observes that our system is more adept at responding to acute illnesses than in undertaking the multifaceted care required to treat chronic disease. But chronic disease now dominates, and patients find themselves "shuttled" among specialists who rarely talk to one another. Patients are given too many drugs, devices, and procedures, each of which carries risks—preventable errors kill 100,000 Americans each year.

Schimpff describes innovative systems in which specialists work in teams to prevent duplication. He suggests changing insurance policies so that patients pay for routine care and rely on insurance to cover catastrophic costs. President Obama's Affordable Care Act, he argues, does little to change the way health care is delivered because it focuses on ways to finance care. Instead, writes Schimpff, "We first need to establish a vision for health care ... and then figure out how to pay for it."

For more details, visit www.medicalmegatrends.com.

—*Cathy Shufro*

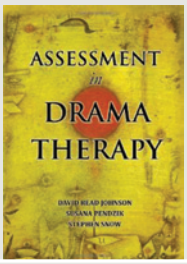
Fibrocytes in Health and Disease
edited by Richard Bucala, PH.D., M.D., professor of medicine (rheumatology), of epidemiology (microbial diseases), and of pathology (World Scientific Publishing Co.) This volume provides an overview of fibrocytes, precursor cells of fibroblasts. The contributors discuss the role of circulating fibrocytes in the etiopathogenesis of various fibrosing disorders, atherosclerosis, autoimmunity, and cancer.

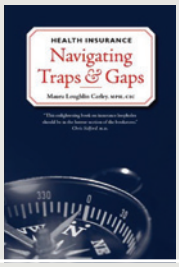
The Psychiatric Report: Principles and Practice of Forensic Writing
edited by Alec Buchanan, PH.D., M.D., associate professor of psychiatry; and Michael A. Norko, M.D., FW '88, associate professor of psychiatry (Cambridge University Press) Mental health professionals acting as witnesses in criminal, civil, and child custody cases recognize that the written report is central in legal settings. This book addresses ethical concerns that include conflicts of interest, offers guidance for preparing various types of reports, and covers such issues as the detection of malingering and the use of psychological tests.

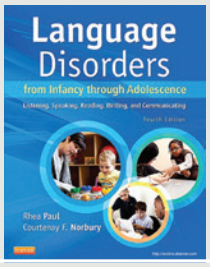
How Vision Works: The Physiological Mechanisms Behind What We See
by Nigel W. Daw, PH.D., professor emeritus of ophthalmology and neuroscience, and professor of neurobiology (Oxford University Press) This text, designed to offer a broad overview rather than detailed treatment of specialized topics, covers the psychology, anatomy, and physiology of all aspects of the visual system. Each chapter addresses a separate aspect of vision and includes illustrations.

Assessment in Drama Therapy
edited by David Read Johnson, PH.D. '80, associate clinical professor of psychiatry; Susana Pendzik, PH.D.; and Stephen Snow, PH.D. (Charles C. Thomas Publisher) This book provides a comprehensive survey of assessment in the field of drama therapy, including its history, core philosophy and concepts, and practices. It explores various modes of assessment, including recently developed evaluation tools and assessment of adolescents.

Manual of Skin Surgery: A Practical Guide to Dermatologic Procedures, 2nd ed.
by David J. Leffell, M.D., HS '86, FW '87, the David P. Smith Professor of Dermatology and professor of surgery (otolaryngology and plastic); and Marc D. Brown, M.D. (People's Medical Publishing House—USA) This book presents the fundamentals of dermatologic surgery, from anatomy, diagnosis, and preoperative preparation and assessment to operative technique and postoperative care.







Health Insurance: Navigating Traps & Gaps
by Maura Loughlin Carley, M.P.H. '78, CIC (Ampersand) This book provides insight into the complex and ever-changing issues of health care coverage, including advice on avoiding costly mistakes and navigating gaps in protection.

Metabolism and Nutrition for the Surgical Patient, Part II
edited by Stanley J. Dudrick, M.D., professor emeritus of surgery (gastrointestinal); Juan A. Sanchez, M.D., MPA, HS '93; and Ronald F. Martin, M.D. (Saunders) This book, part of *The Clinics: Surgery* series, discusses nutrition and metabolism for the chronically ill patient. Topics include nutritional management of geriatric surgical patients and patients with acute and chronic pancreatitis, surgical treatment of patients with diabetes mellitus, immunologic functions and aspects of the alimentary tract related to feeding, and enteral and parenteral feeding access techniques. The book discusses dietary, metabolic, and surgical management of obese patients as well as nutritional support of patients with cardiovascular disease, cancer, and inflammatory bowel disorder.

Language Disorders from Infancy through Adolescence: Listening, Speaking, Reading, Writing, and Communicating, 4th ed.
by Rhea Paul, PH.D., CCC-SLP, professor (adjunct) in the Child Study Center; Courtenay F. Norbury, D.PHIL. (Mosby) This text provides the information needed to assess childhood language disorders and to treat them appropriately. The book presents basic concepts and vocabulary, the scope of communicative difficulties, updated information on best practices, and an overview of key issues and controversies.

ACSM's Guide to Exercise and Cancer Survivorship
edited by Melinda L. Irwin, PH.D., M.P.H., associate professor of epidemiology (chronic diseases) (Human Kinetics Publishers) This text describes applications of the science behind the benefits of exercise to the design or adaptation of exercise programs for cancer patients and survivors. The guide uses evidence-based information to assist health, fitness, and medical professionals in using exercise to help cancer survivors with recovery and as a strategy both for reducing the side effects of treatment and for enhancing overall quality of life.

The descriptions above are based on information from the publishers.

SEND NOTICES OF NEW BOOKS TO
Cheryl Violante, *Yale Medicine*, 1 Church Street, Suite 300, New Haven, CT 06510, or via e-mail to cheryl.violante@yale.edu

JEFFREY DRAZEN
A journal's 200-year history

When the first issue of *The New England Journal of Medicine and Surgery, and the Collateral Branches of Science* appeared in January of 1812, New England was "a medical backwater," said Jeffrey M. Drazen, M.D., at internal medicine grand rounds in May.

Drazen, the journal's present editor, said that founder and physician John Collins Warren felt that the new country needed a medical magazine. "Physicians in New England needed to know what was happening in the seats of learning in Berlin, London, and Paris," Drazen said. The journal would appear quarterly, be delivered on horseback, and cost $3 per year.

Since then, it has assumed different forms until settling on its current name, *The New England Journal of Medicine*, in 1928. This year it celebrates its bicentennial.

The journal has continued to inform physicians throughout its history. In 1898 it reported on a new device called an X-ray. During World War II it explored the medical aspects of war. In 1942 it reported on a new drug called penicillin, and in 1981 it published three articles on a little-understood disease called gay-related immune deficiency, or GRID, now called HIV/AIDS.

"I firmly believe that physicians need the best and most up-to-date medical information," Drazen said, echoing the founding editor's mission.

—John Curtis

DAVID WILLIAMS
Eliminating health disparities

"Your zip code is a more powerful predictor of your health than your genetic code," David R. Williams, PH.D., M.P.H., told psychiatry resident grand rounds in May. "In some states there is a 13-year difference in life expectancy based on what county you live in."

Subway lines and even specific train stations can be predictors of health in a society full of disparities based on factors that also include race, socioeconomic status, and education level, said Williams, the Florence Sprague Norman and Laura Smart Norman Professor of Public Health at Harvard. The United States, he said, ranks at the bottom of industrialized nations in such health indicators as infant mortality. Improving health, he continued, means addressing issues beyond health.

"We need to invest in our schools, our sidewalks, school programs, produce markets, jobs—not traditional things to think about in terms of health, but these are the things that create opportunities for individuals to make healthy choices," Williams said. "The health of America depends on the health of all Americans. Improving Americans' health will not only improve the economy, it will improve the quality of life."

—J.C.

CUSHING/WHITNEY MEDICAL LIBRARY (6)

Medicine in the time of Shakespeare

An exhibit in the Historical Library explored medical theory and practice in 16th-century London.

By Charles Gershman

"A plague o' both your houses," the dying Mercutio cries in *Romeo and Juliet*. "Hysterica passio, down, thou climbing sorrow," exclaims the mad king in *King Lear*, referring to an affliction of the womb. And in *The Winter's Tale*, Camillo presents the visionary notion that a person can carry and spread a disease without showing signs of illness.

Medical references are rife in the Bard's *oeuvre*, garnering attention from literary scholars and medical historians alike. A recent exhibit organized by the Cushing/Whitney Medical Library highlighted themes from Shakespeare's works, including plague, midwifery, domestic medicine, herbal remedies, astrological medicine, surgery, and other medical topics from the period between 1589 and 1613, when Shakespeare produced most of his known work. (Shakespeare lived from 1564 to 1616.) "Medicine in Shakespeare's London," curated by historical librarian Melissa Grafe, PH.D., was part of a university-wide Shakespeare festival and on display from March through June.

In choosing relevant texts to display in the library's rotunda, Grafe decided to paint a broad picture of medical knowledge and practice at the time. "We wanted not only to discuss Shakespeare but to go beyond what Shakespeare might say and write," said Grafe, adding that the exhibit included works not directly connected to Shakespeare in order to give a fuller picture of medicine in that time and place.

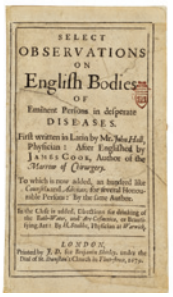
Among the texts displayed were *The Byrth of Mankynde, otherwyse named the Womans Booke*, published in 1545 and one of the earliest books written in English on pregnancy and childbirth; a 1633 edition of John Gerard's *The Herball or Generall historie of plantes*; plague orders issued by the Privy Council under Queen Elizabeth I in 1592; and a 1633 edition of *The Workes of that famous chyrurgian, Mr. Iohn Banester*, a compilation of the early works of a surgeon who served the Earl of Warwick.

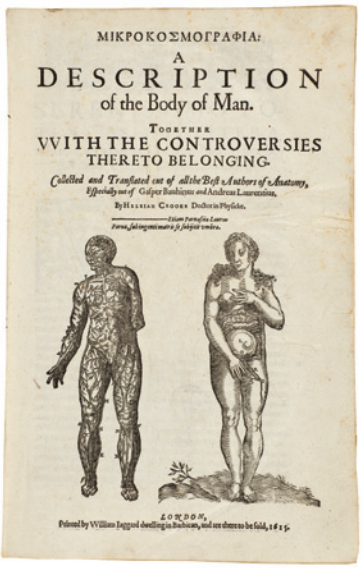
"We chose selectively," Grafe said. "Some texts were more important than others, but we wanted to show diversity. We wanted to talk about how people understood their bodies, health, and disease during Shakespeare's time."

Indeed, some areas of medical knowledge saw significant advances in the Elizabethan Age—Andreas Vesalius laid the foundations for modern anatomy, and Ambroise Paré revolutionized battlefield medicine. Other fields, however, remained mired in ancient concepts. Not until the 19th century did Western medicine abandon the notion, first proposed by Hippocrates, that there are four humors (blood, yellow bile, black bile, and phlegm) corresponding to four human temperaments (sanguine, choleric, melancholic, and phlegmatic). The concept is described and illustrated in the 1664 edition of *The Optick Glasse of Humors*, first published in 1607 by the cleric and writer Thomas Walkington.

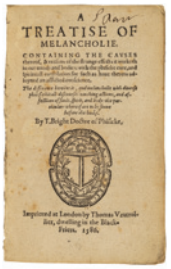
Also on display was a 1679 edition of John Hall's *Select observations on English bodies of eminent persons in desperate diseases*, in which the physician describes a variety of diseases through case studies, including observations on melancholy and syphilis. Hall married Shakespeare's daughter Susanna in 1607. Some historians have suggested that this connection explains Shakespeare's medical fluency; however, Shakespeare wrote many of his plays with medical references, like *Macbeth* and *King Lear*, before Hall's relationship with the family.

Although the exhibit included more than 25 texts, Grafe noted that the library's early modern holdings are much more extensive. "This is just a small tip of the iceberg," she said. "We have well over 1,000 books from that period." Selections from the exhibit may be viewed online at exhibitions.shakespeare.yale.edu/exhibitions/medicine-in-shakespeares-london/.

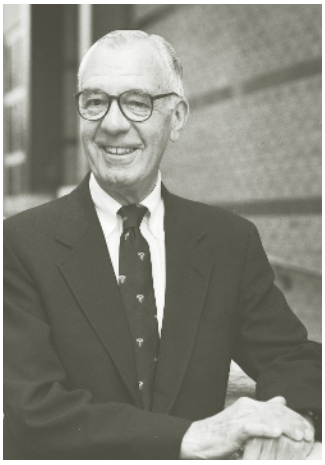

SELECT
OBSERVATIONS
ON
English Bodies
OF
Eminent Persons in desperate
DISEASES.


ΜΙΚΡΟΚΟΣΜΟΓΡΑΦΙΑ:
A
DESCRIPTION
of the Body of Man.
Together
WITH THE CONTROVERSIES
THERETO BELONGING.
Collected and Translated out of all the Best Authors of Anatomy,
Especially out of Caspar Bauhinus and Andreas Laurentius,
By Helkiah Crooke Doctor in Physicke.
LONDON,
Printed by William Iaggard dwelling in Barbican, and are thereto be sold, 1615.


THE
Method of Curing Wounds
made by Gun-shot.
Also by Arrowes and Darts, with their Accidents.


A Treatise
TREATISE OF
MELANCHOLIE.
CONTAINING THE CAVSES
By T. Bright Doctor of Physicke.

As part of a university-wide celebration of William Shakespeare, the Cushing/Whitney Medical Library displayed medical literature from London in the Bard's time. Among the items in the library's collection are, on facing page, the 1633 edition of *The Herball or Generall hiftorie of plantes*, by John Gerarde. On this page, from top; *Select Observations on English Bodies, including observations on melancholy and syphilis*, written by John Hall, who married Shakespeare's daughter Susanna in 1607; a medical/astrological manuscript from circa 1553, including an image of an astrolabe, a device used by astronomers, navigators, and astrologers to plot the positions of the sun, moon, planets, and stars; *A Description of the Body of Man Together With the Controversies Thereto Belonging*, a collection of what were then considered the best works of anatomy and published in 1615; far right, *A Treatise of Melancholie*, by Thomas Vautrollier; and near right, *The Method of Curing Wounds Made by Gun-shot, also by Arrows and Darts, with their Accidents*, by the surgeon Walter Hamond.



“A gentle man”

Arthur Ebbert Jr.’s friends and colleagues recall his graciousness and unfailing courtesy.

By Natalie Villacorta

When Leon E. Rosenberg, M.D., HS ’63, became the dean in 1984, he immediately asked Arthur Ebbert Jr., M.D., to stay on as deputy dean. Ebbert, who had spent more than 30 years in the School of Medicine’s administration, including 10 as deputy dean, had planned to take a sabbatical year and return to the university in a different role. But Rosenberg needed Ebbert’s help with the fundraising campaign, the construction of new buildings, and his state of the school address. Ebbert agreed to stay for two more years to help the new dean gain a foothold, beginning with providing feedback on the draft of the address.

“His advice was always measured and based on experience, but always given with decency and politeness, with diplomatic wording,” Rosenberg recalls. “I told him I was going to count on him to tell me which doors to open and which to keep closed. He understood what that meant.”

Though Ebbert regularly reminded Rosenberg that the clock was ticking, he agreed when Rosenberg entreated him to stay an additional year. “But I think there was another thing going on,” Rosenberg joked at Ebbert’s retirement reception in 1987. “He was going to wait to be sure that I didn’t screw up what he’d been working 34 years to set up around here.”

Ebbert died on June 7 in Hamden, Conn., where he had retired. He was 89. He left a brief obituary to share with the medical school community but requested that it not be submitted to the newspapers and that no memorial service be held in his honor. His friends and colleagues remembered him as an unassuming, modest man, who preferred to stay out of the limelight.

Many roles in a time of change

In his 34-year tenure, Ebbert filled a number of roles during a time of change around the country and at the School of Medicine. He arrived in 1953 at the invitation of Dean Vernon W. Lippard, M.D. ’29, with whom he had worked at the University of Virginia, where Ebbert had received his undergraduate and medical degrees and completed his residency in medicine. He worked his way up the academic ladder at Yale from instructor to professor to assistant dean of postgraduate education, then to associate and deputy dean, and served under three more deans—Frederick C. Redlich, M.D., Lewis Thomas, M.D., and Robert W. Berliner, M.D.—before Rosenberg. Ebbert watched the faculty grow from 150 to more than 700, and class size increase from 60 to 100

students. When Ebbert came to Yale, women made up only 10 percent of each class but by the time of his retirement, their numbers were approaching 50 percent.

"You could have been dean many times at many schools, but you chose to stay at Yale," Berliner said at Ebbert's retirement reception. "Five deans! One dean is too much for many of us. ... It's my conviction that you, working with five deans, have done more for this school than any other person since Dean Winternitz made it a modern medical school."

Transformations across the country found their way to Yale as well during Ebbert's time. In 1965 the implementation of Medicare and Medicaid created a new source of revenue for doctors and hospitals as the government now paid for patients previously treated without charge. These changes, along with increased understanding of the complexity of science and medicine, prompted increased specialization—leading to the creation of several new departments in the early 1970s, including anesthesiology, neurology, and laboratory medicine. In the same year that the Medicare program went into effect, the Grace-New Haven Community Hospital and the School of Medicine ratified a new affiliation agreement, and the hospital was renamed the Yale-New Haven Hospital (YNHH), reflecting its role as the university's main teaching hospital.

New buildings rose on campus, including Harkness Hall in 1955, and a year after Ebbert's retirement, the Yale Physicians Building. In 1981 the Yale Faculty Practice Plan was created to coordinate the clinical activities of the full-time medical faculty into one multispecialty group practice.

As Ebbert rose through the ranks, however, he saw fewer and fewer patients. He spent his days in the dean's office approving faculty promotions and appointments; overseeing surveys of the school by the Association of American Medical Colleges; interviewing prospective students; and advising students about their postgraduate plans. Ebbert also chaired the Student Advisory Council, established in 1963 to provide students with a faculty mentor who could guide them in understanding the relationship between basic science and clinical medicine, selecting elective courses, and starting research projects for their theses.

But those who observed him in the clinic thought that a physician with such patience and perception, who had honed his skills in internal medicine as a captain in the U.S. Army Medical Corps in postwar Japan, should have been treating patients. In a letter to Ebbert upon his retirement, Donald S. Dock, M.D., HS '57, wrote:

"My first encounter with you was as the physician for a patient with suspected pheochromocytoma on one of the Winchester wards in the summer of 1955. I had just come up after an internship at Hopkins and recall clearly marveling at the astute way you picked apart that case. For a while I thought it was a loss to the practicing world that you had taken a big job in the dean's area, but I've quickly realized how important that move was to the medical school."

Indeed, Ebbert's friends and colleagues recall not just the projects he oversaw or the administrative tasks he performed but also his way of making people feel that they could confide in him, and his calming, trustworthy effect. He understood the challenges that the faculty faced—funding, personality incompatibilities, career decisions. He would listen to these dilemmas patiently, always offering fair and wise counsel. Ebbert was "a vital link between the faculty and the administration," said Dorothy Horstmann, M.D., FW '43, a close friend, at his retirement reception. (Horstmann, a researcher whose key finding about polio led to the development of a vaccine, was the first woman to be named a full professor at the medical school.)

"If you had a question about where to turn next, 'Ask Art' was the motto," recalls John E. Fenn, M.D. '61, HS '67, clinical professor of surgery (vascular). "Anybody could approach [him] with any kind of problem, and if he didn't solve it, he knew how to give you advice to go about seeking a solution." As chief of staff of YNHH from 1982 to 1993, Fenn himself often turned to Ebbert for advice, finding in Ebbert a comforting ally at the School of Medicine. Whether it was a problematic student, a lost key, or a widow who needed an escort to a university function, Ebbert could be relied upon to help.

Friendships maintained

Ebbert, who was born in Wheeling, W.Va., in 1922, was an only child and never married. "His family was Yale," said Sharon McManus, major gifts officer for the School of Medicine, who knew Ebbert when she was director of alumni affairs.

Many of the students he interviewed for the admissions process during his early years at Yale went on to become faculty members and colleagues, including Fenn; Gerard N. Burrow, M.D. '58, professor emeritus of medicine, who became dean of the medical school; and Michael Kashgarian, M.D. '58, HS '63, FW '65, professor emeritus of pathology. (At the time, the admissions committee consisted of Ebbert and his friend and colleague Thomas R. Forbes, PH.D., the Ebenezer K. Hunt Professor of Anatomy and an associate dean of the medical school.) Ebbert formed friendships through this role that endured long after the students had graduated. To maintain

those friendships he founded the *Alumni Bulletin,* the precursor of *Yale Medicine,* in 1953. The early issues were simple eight-page newsletters, the editorial staff consisting of Ebbert and his assistant, Guldane Mahakian.

The first issue entreated its alumni readers to act as both "field correspondents and literary critics," and to welcome the *Bulletin* as "the expression of a real desire on the part of the new School administration to strengthen the loyalties of our Yale family." "Alumni looked to him as a personal link to the school," remembers Kashgarian, who succeeded Ebbert as editor in chief of the publication in 1986, a position he still holds.

The *Bulletin* reported on everything from the meetings of the Association of Yale Alumni in Medicine (AYAM) and the recipients of awards and appointments to student performance on board examinations. The *Bulletin* was also a forum for such news as the School of Medicine's adoption of a coat of arms, reported in the October 1963 issue.

As the school grew, so did the publication, with contributions from other members of the medical school community; in 1966, its name was changed to *Yale Medicine*. Long after Ebbert had stepped down as editor in chief, he continued to send newspaper and magazine clippings about alumni achievements to include in the next issue.

He also served as the medical school's delegate to the AYAM, always returning with impeccable reports of their meetings, McManus recalls. For his dedication, Ebbert was made an honorary member of the association.

His long-term friendships and his institutional memory made him "the library of the place," Rosenberg says. Fittingly, he loved the Medical Library and "thought it was one of the jewels in the crown of Yale School of Medicine," remembers library director Kenny Marone, M.L.S.

A longtime friend and member of the Associates of the Medical Library, Ebbert served as its membership chair. Ebbert made sure that the collections and the staff were appreciated and protected, Marone says. He established a memorial fund in honor of his parents in 1977. He was also a devoted member of both the Nathan Smith Club for faculty and students interested in the history of medicine and the Beaumont Medical Club for physicians in the community and at Yale. At the club's monthly meetings, members would drink sherry and listen to a presentation given by one of their fellow members, followed by dinner in the Beaumont Room. They would toast the anonymous donor of the wine—who was Ebbert, Burrow recalls.

Merle Waxman, M.A., director of the Office for Women in Medicine, has several books that were gifts from Ebbert, including *The Trauma of Moving: Psychological Issues for Women* and *The Handbook of Nonsexist Writing*, both written by friends of his. Inside the books are labels on which Ebbert had recorded the date in his clear, precise handwriting. She remembers that when she became director of the Office for Women in Medicine, which Ebbert and Berliner were instrumental in establishing in 1975, he offered to sponsor her membership at Mory's, a private club for alumni, faculty, students, and others affiliated with Yale. "But Dr. Ebbert, isn't that a club for men?" Waxman asked. "Oh, no, my dear," Ebbert responded, explaining that the club had been open to women since 1972. Waxman ended up becoming a member.

Ebbert, she said, "was willing to speak and to defend fairness," when it came to gender disparities at the School of Medicine. Ebbert advised the office, which seeks to increase the visibility and accomplishments of women in medicine and to provide them with social and professional support. He supported revisions to Yale's tenure system that would allow tenure-track women to work half time, giving them more time to achieve tenure, as many of them were simultaneously starting families. Ebbert also helped in the creation of the Phyllis Bodel Childcare Center, which has provided on-site care for the children of faculty, students, and staff since 1979.

Christmas cards, sailboats, and lunches at Mory's

"Art looks like Mister Rogers, he sounds like Mister Rogers, and he behaves like Mister Rogers!" Rosenberg's wife, Diane Drobnis, and daughter, Alexa, used to say.

Like Mister Rogers, whom Ebbert portrayed in a second-year show, he was everybody's favorite neighbor. Ebbert's friends and colleagues recall that he always asked after their family's welfare and sent handwritten Christmas cards every year. He maintained an extensive social network and always kept in touch with people—catching up with friends over lunch at Mory's. His guests would arrive to find him sitting at his favorite table dressed in a jacket and striped, regimental tie—his uniform no matter the occasion. "I'm sure he didn't go skiing in a tie—but it's hard to picture—I've only ever seen him in ties," says Waxman.

Ebbert loved to ski and sail. He was a member of the Sachem's Head Yacht Club in nearby Guilford and owned a 24-foot-long Pearson Ensign sailboat named Goose. He purchased the Ensign from a family who named their boats after birds with a double *o* in their names (another of the family's boats was named Loon). Though Ebbert didn't particularly like the name, he kept it since it is bad luck to change a boat's name.

"He was a consummate sailor," recalls Francis M. Lobo, M.D. '92, who met Ebbert through the Nathan Smith

In 1953 Arthur Ebbert, then the medical school's deputy dean, launched the *Alumni Bulletin*, an eight-page newsletter that evolved into the current format of *Yale Medicine*. Ebbert felt that the school needed a publication that would keep alumni informed of happenings on campus.

JENNIFER STOCKWELL

Club and crewed on Goose during races. On the downwind leg, when there was nothing to do but relax, Ebbert would break out gingersnap cookies and iced tea, while most other crews would be drinking something harder.

This kind of old-fashioned gentlemanly behavior was typical of Ebbert—he always opened the door for women with a smile on his face, never raised his voice, and was particular in his speech—when he dictated to his assistant, he included punctuation marks. When his mother's health was failing he would visit her almost daily, reading aloud to her after the print became too small for her to make out. Ebbert also looked after Helen Forbes, the widow of his long-time friend and colleague, with the same devotion.

This loyalty extended from his friendships into his personal habits. He didn't own a television, preferring to keep informed about current events through newspapers, magazines, and the radio. He didn't have an e-mail address and wrote all his notes by hand. He drove only American cars, with a preference for Oldsmobiles and Chevrolets.

"He was an extraordinary, comforting, gentle man. Not gentleman; *gentle man*. And a gentleman as well. Clearly a gentleman as well," Fenn says.

Before Art and After Art

"This is really the end of an era at the Yale School of Medicine—it is the Ebbert era," Rosenberg announced at Ebbert's retirement—or "commencement," if you asked Ebbert—reception in 1987, where Ebbert's admirers overflowed the courtyard outside of Harkness Dormitory. " 'B.A.' may mean something to some of you concerning this time of year, but to us it means 'Before Art.' And 'A.A.' may have significance to you, but to me it will always mean 'After Art.' "

On that pleasant June day, Ebbert's devotion to the school was recognized, to his surprise, with the naming of the third-floor lounge of the Hope Building in his honor. His colleagues could not think of a more appropriate place, as the lounge was "a gathering point" for students, faculty, and alumni, representing Ebbert's relationships with all.

True to character, Ebbert spoke only a few words of thanks at the ceremony, wanting his guests to get back to enjoying the party. "I know you probably would have preferred to go golfing or play tennis or sail or do your gardening," he said. While the speakers before him had lauded his service to the students, faculty, and alumni, Ebbert paid tribute to the staff—the business managers and the secretaries. "They're the people that know how to get things done around here," he said. He asked Mahakian, his administrative assistant of 22 years, to stand, and presented her with a bouquet of flowers. She wrote in a thank-you note to Ebbert, "As a number of people have told me since, they know of no one else who would have honored their secretary as you did. ... It was a party for *you* but I'm so happy you included me!"

Ebbert received a stack of letters from former colleagues, students, and friends who could not attend the reception but wanted to add to the chorus of congratulations and words of thanks. The letters came from as far away as Los Angeles and Miami and as close as the School of Nursing. Many wrote that they had learned of his retirement from an article in *Yale Medicine*, reaffirming the importance of the publication he had founded.

From the wall in the Hope Building where his portrait, painted by William F. Draper, hangs today, Ebbert will continue to be in the background, where he felt most comfortable—wearing a jacket and tie, as always. **YM**

—Natalie Villacorta is a student at Brown University and was *Yale Medicine*'s 2012 summer writing intern.

MÉDECINS SANS FRONTIÈRES

ALUMNI CAREER PATHS
INTERNATIONAL MEDICINE

Yale doctors around the world

Since the days of Peter Parker, alumni have brought health care to underserved regions of the world.

By Jenny Blair

As a medical student in South India in the mid-1980s, Unni Karunakara, M.P.H. '95, DR.PH., read a magazine article that he remembers still. It was about Médecins Sans Frontières (MSF, also known as Doctors Without Borders), a medical humanitarian organization famed for rushing medical aid to disaster areas and war zones. Karunakara wrote to MSF saying he would like to work with them.

He never received a reply. But 10 years later, as a Yale public health student on his way home from a fellowship in South Africa, Karunakara met an MSF representative in the Brussels airport. Soon he was offered a job. "It was never meant to be a lifetime engagement," he recalled. "Now it's been about 15, 16 years." After managing viral hemorrhagic fever outbreaks in Africa and caring for Bangladeshi cyclone victims—among other responsibilities—Karunakara is now MSF's international president. Based in Geneva, he chairs their international board and represents the organization to the international community and national governments between travels to field projects all over the world.

Like Karunakara, Yale medical students and graduates routinely cross borders to work in what are usually low-resource medical settings. The tradition of service abroad dates to the 19th century, when such medical school alumni as Peter Parker and Moses C. White traveled to China as medical missionaries; it experienced a resurgence in the

PREVIOUS PAGE Unni Karunakara, international president of Médecins Sans Frontières, at a malnutrition screening in a mobile clinic at a camp for internally displaced persons in Mogadishu in 2011.

1990s with a renewed interest in global health, once known as tropical medicine or international health. Some alumni began training overseas as students, while others have incorporated overseas work into their practice, made international health a career focus, or even moved abroad permanently. The work forces them not only to recall fundamental skills but also to confront medicine's intersections with policy, the environment, religion and culture, economics, and poverty. And for those willing to forgo fast diagnostics and advanced medications, working abroad can provide satisfaction that practice in the United States may not.

"There's almost never a day that goes by when you don't think, 'Boy, I really saved that patient's life or limb,'" said Kinari Webb, M.D. '02, who started a clinic in rural Borneo and has made Indonesia her home. By contrast, she said, as a family practice resident in the United States, "I felt like my major successes as a physician were getting people off 15 meds and down to four."

"You're getting to the heart of why we go into medicine," said Anna Gibb Hallemeier, M.D. '02, HS '06, who has worked in Kenya and New Zealand. "The impact that you can make is a lot more visible, I think, than doing primary care in the States." And, she said, international medicine can put the vagaries of American practice, from its prescriptions for wrinkles to its constant threat of lawsuits, into perspective.

Travels abroad and medicine

It was an international experience that led Hallemeier to medicine. As an undergraduate she studied chimpanzees in Uganda, and that's where she changed her career plans. Webb had had a similar epiphany after studying orangutans in Borneo. "When Kinari and I met in medical school, we compared our admissions essays, and they were essentially identical," Hallemeier said. "We both went to the forest and decided we preferred the human primate to the other primates." Her change of heart occurred as she watched her local guides and hosts falling victim to diseases like HIV/AIDS and malaria. "It was just so unavoidable—how important public health was, how important prevention was," said Hallemeier. "I realized I'd rather be working to do something about these diseases than observing chimpanzees in the forest and trying to pretend that these problems weren't there."

For Ellis L. Webster, M.D. '91, an ENT and head and neck surgeon, the road to international medicine was the road—or rather the flight—home. In addition to a busy practice in West Palm Beach, Fla., he spent years caring for poorer patients 30 miles west in Belle Glade, many of whom paid him in mangoes and lettuce; and he provides free surgical care for patients from Haiti, some of them victims of the 2010 earthquake. Now, he works on the Caribbean island of Anguilla every month. "The reason why I wanted to do medicine was to help people," he said. "It seems like a cliché."

Webster grew up on the island, a British overseas territory that is home to about 13,500. Urged by his mother, who had six other children, to avoid his fisherman father's path and get an education, Webster began his health care career as a 16-year-old studying dentistry in Trinidad; attended the University of the Virgin Islands; completed medical school at Yale; and trained in otolaryngology at the University of Iowa. As he made a career in the United States, the knowledge that his own people lacked ENT care weighed on him. "It's like a Third World country in terms of the medical care that's provided," he said. The territory's few primary care physicians are sent by the British Foreign and Commonwealth Office to serve one-year terms fresh out of medical school.

So Webster started a part-time practice on the 35-square-mile island in 2010. He set up an office, shipped equipment (the Anguillan government waived some import duties), and opened his doors that September. One week a month he cares for Anguillans' nasal polyps, sinusitis, mastoiditis, and goiters, as well as an occasional tongue cancer. He sees patients with long-neglected chronic conditions like draining ears or goiters; the latter can leave people short of breath for years, but after surgery they may return to their usual way of life. The gratitude his patients show, said Webster, makes the monthly trip to his home island deeply satisfying. It was something he had always wanted to do, he said; "something I needed to do to give back. Now my people do not have to travel abroad for routine ENT care and I can treat head and neck diseases before they become debilitating or unresectable."

Low-resource medicine

Medical practice is challenging at the best of times, but it can be much more so in a low-resource setting. Emergency physicians may have to manage long-term diabetes care without access to benchmark blood tests. Gastroenterologists may have to guess whether a patient is having a heart attack. A coughing patient's diagnosis may require a therapeutic trial of antibiotics—if those don't work, maybe it's TB. Maybe. "It requires comfort with uncertainty, which many Western physicians can't handle," said Webb, who has worked with dozens of American students and physicians at her clinic. And though the cost of treatment is an issue in the United States, it can be a deal-breaker abroad: A family without a safety net may risk starvation if they sell their rice fields or cow to pay for treatment. "You are treating the whole community and you are treating the whole family," said Webb. "Sometimes

COURTESY OF ALISON NORRIS (2)

LEFT In Zanzibar, Tanzania, Alison Norris conducted a focus group discussion about contraception and pregnancy for a group of married men in a rural district in 2010.

BELOW While walking to a field site at a sugar plantation in northern Tanzania, Alison Norris and two of her children were joined by a cheerful group of children who live on the plantation. Norris carried out her doctoral research there in 2004.

NIKKI SEE

COURTESY OF RACHEL BRONZAN

TOP Kinari Webb launched a clinic in 2007 with the dual goals of providing health care to an underserved population and preserving the nearby rainforests, which are threatened by logging.

ABOVE Rachel Bronzan spent several years in Malawi, treating malaria and conducting research. She and her husband, Frank, took time out for a walk with their daughter, Alexis, near Mt. Mulanje.

that means you've got to tell them that they shouldn't spend any more money on care."

Even providing basic care may not be simple. To get the right medication to some Anguillan patients, Webster often brings drug reps' free samples to the island because staples like nasal steroid sprays and advanced antihistamines aren't available there. "I find that I am writing for meds that are antiquated by U.S. standards," he said. Diagnostic tools are similarly scarce, he added, which means he sometimes relies on "intuition and gut feelings. This is where you really put what you learned in medical school and residency to work. It takes up to three months to get pathology reports; therefore I have to make intraoperative and treatment decisions based on prior experience. I also often see patients with non-ENT conditions, who show up to get medical attention."

A veteran of many field hospitals, Karunakara is intimately aware of the challenge of simplifying Western medicine for the field without sacrificing quality. For sleeping sickness, he said, MSF found a way to cut the usual four-times-a-day infusions to twice a day and then finish the treatment with oral medications. And MSF pushed drug companies to create fixed-dose combinations of HIV drugs, which have made it much easier for patients to adhere to treatment. "These are common-sense innovations," he said. But making fixed-dose combinations possible, however, required the ingenuity of generic drug companies in India and taking on some of the most powerful corporations in the world.

The big picture in medicine

Indeed, working in developing countries often means physicians must think about the big picture in a way they may never have to do at home. The effects on medical practice of politicians, polluters, corporations, and cultures can be clearer when viewed from a foreign, low-resource perspective, perhaps because one's patients tend to be poorer and more vulnerable. The ways in which such forces interact with medicine were a topic of intense discussion during medical school among four students who matriculated in the class of 2002: Webb; Hallemeier; Alison Norris, M.PHIL. '04, PH.D. '06, M.D. '08; and Margaret Bourdeaux, M.D. '03. All went on to make such questions a part of their professional lives, and they remain connected to one another today through Webb's Borneo work. "We were systemic thinkers," Webb recalled. "We were interested in how medicine fit into the whole world."

In the years since, Webb quite literally saw the forest for the trees. She began an NGO called Health in Harmony and opened a clinic near a rainforest in Indonesia. It combines clinical practice, public health, and rain forest conservation, which suits the physician who hasn't stopped caring about orangutans and their habitat. "I know that the conservation and academic part are incredibly important for the long term, but I also need to combine it for myself with the short-term satisfaction" of patient care, Webb said.

Norris traveled to Kenya as an undergraduate to study a new drug for trypanosomiasis, a disease caused by parasitic protozoa; though the drug killed more lab mice than trypanosomes, she found herself enamored of East Africa. "I [was] excited by how much one can do with so little," she said. She returned to the region before medical school and again as a Downs Fellow, then wrote her PH.D. thesis on sexually transmitted diseases on a sugar plantation in Tanzania—this time with two small children in tow. Norris is now an assistant professor of epidemiology at Ohio State University's College of Public Health; she is also president of Health in Harmony's board of directors.

Bourdeaux and Hallemeier are also involved with international work from the United States while remaining clinically active. Hallemeier combines a Cape Cod practice with Health in Harmony work. Though she spent two months in Kenya's Maua Methodist Hospital as a medical student "gaining hands-on experience on the inpatient wards," then six weeks in New Zealand as a Yale/Johnson & Johnson scholar, family obligations have kept her stateside while she continues her international medical involvement. Hallemeier has served as both board president and a board member of Health in Harmony, where she talks with potential donors and volunteers and helps coordinate their complex trips to Borneo. "I couldn't be in Borneo myself, so I wanted to do what I could from this end," Hallemeier said.

Bourdeaux studies global health policy and humanitarian aid at Boston's Brigham and Women's Hospital while caring for neonates there. She grew interested in the mechanics of humanitarian aid during two stints in Kosovo shortly after the war there had ended. For her M.D. thesis, she did an ethnography of the health system there that made her rethink her assumptions about the effectiveness of humanitarian intervention when an NGO doesn't understand local culture. Albanian physicians who had fled as refugees were often hired by NGOs to staff postwar hospitals, but because they had fled, those same physicians had lost the trust of the population. "Nobody wanted to go to the publicly run clinics or hospitals because there was such a huge trust deficit," said Bourdeaux. "The international community didn't recognize this at all."

The situation on the ground

Such confusion is familiar to Rachel Bronzan, M.D. '95, M.P.H., a veteran of the Centers for Disease Control and Prevention's Epidemiology Intelligence Service who studied malaria and provided clinical care in Malawi for several years. She now serves as an advisor to the government of Togo from her home in Seattle. Rural women in Malawi, Bronzan recalled, sometimes knelt before asking her a question. Such things "[make] it clear that you just don't understand or know where [people are] coming from."

Not fully understanding the cultural situation on the ground is a problem for many NGOs attempting to provide aid. In fact, the last 15 years or so have seen an intense international effort to better delineate aid organizations' responsibilities. It's human nature to want to rush to the scene of a disaster to try to help—an impulse that may be especially strong in people like physicians who have specialized skills. Yet, as the flawed hires in Kosovo demonstrate, there are too many ways to go wrong. In the aftermath of the 2010 Haiti earthquake, responders ranging from teenage Scientologists to pediatric ICU specialists descended upon the island, while stacks of boxes containing old clothes mailed by American churches accumulated under tarps at the airport. This shower of unorganized labor and supplies is what experts sometimes refer to as the second disaster. Not all personnel and supplies are needed, yet they will have to be dealt with somehow, sometimes at great cost to other responders.

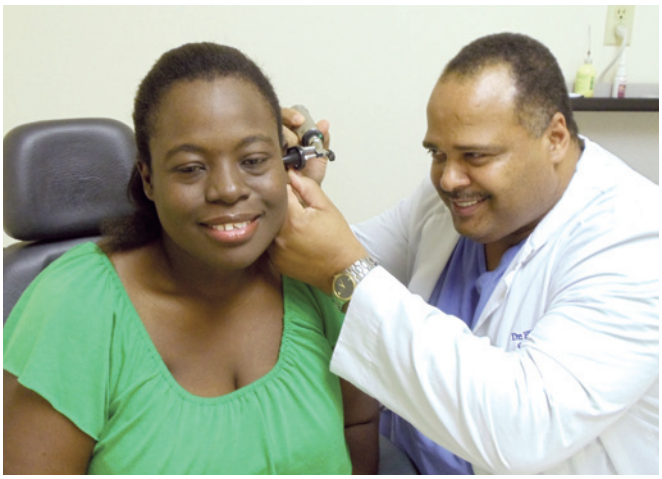
This "second disaster" points to the disturbing idea that humanitarian aid can do more harm than good. To help requires more than good will and a black bag.

"We have so many people going out there with a trunk full of albuterol and thinking that's going to help," said Bourdeaux. "There needs to be some recognition that humanitarian response requires some training and some thought." She compared the world's checkered and disorganized disaster responses to the way that a town without a fire department might respond to a house blaze. "What you have is a bunch of neighbors ... with fire hoses. Some of the people who own them have experience putting out fires, some don't. We need a fire department."

Bourdeaux now studies military approaches to humanitarian aid, including those initiated by the United States military and NATO. "There's lots of potential for improvement in how the international community responds to things," she said. "I find it to be one of the most fascinating stories of our generation."

A new interest in global health

Whatever overseas commitment Yale medical students and alumni are making, they are doing so these days in increasing numbers. When Bronzan graduated in 1995, international work didn't strike her as a prominent option at Yale. Such faculty members as polio expert Dorothy Horstmann, M.D., FW '43, infectious disease specialist Robert E. Shope, M.D., HS '58, and virologist Wilbur G. Downs, M.D., M.P.H., routinely worked in the developing world; and the Wilbur



COURTESY OF ELLIS WEBSTER

Ellis Webster, an ENT and head and neck surgeon, has a practice in Florida, but once a month he returns to his home island of Anguilla to provide care to the islanders.

Downs International Health Travel Fellowship Program for student research abroad has been available since 1966, but foreign opportunities were still "more of a curiosity" in Bronzan's time. "People would be encouraging," she said, "but there was not a big culture of it at all."

One of the people who changed that state of affairs and helped put Yale on the international medicine map is Frank Bia, M.D., M.P.H., FW '79, professor emeritus of internal medicine. Bia graduated from medical school at Cornell in 1971; his yen to work abroad [chronic pruritus pedis] was so unusual that it invited ribbing. "You seem to think we're running a travel agency rather than a medical school," his dean told him. After medical school, Bia worked at the Albert Schweitzer Hospital in Haiti. Along with Michele Barry, M.D., HS '77, he co-founded Yale's international health program in 1981. Twenty years later, the program received funding from Johnson & Johnson. Between 1981 and 2011, what is now called the Yale/Stanford Johnson & Johnson Global Health Scholars Program had funded overseas rotations for some 600 physicians. Residents and career physicians can apply to work in one of five sites in South Africa, Uganda, Liberia, Indonesia, and Rwanda; many of the slots come with funding for travel and expenses.

Information, said Bia, is behind the explosion of interest in international medicine, in part because the Internet has made disparities so obvious. "Medical students are coming to medical school with a sense of global citizenship," he said. Technology is also easing interactions across borders in an unprecedented way. A few decades ago, physicians serving in remote areas might not have had access to a telephone, much less an Internet connection. Now Bia can co-author a manuscript with someone in Eritrea.

Bia left Yale in 2008 to serve as the full-time medical director of the NGO AmeriCares. By that time, overseas rotations were already a highly sought-after option among medical students. The school's 2006 establishment of an Office of International Medical Student Education, headed by Robert Rohrbaugh, M.D. '82, HS '86, FW '88, professor of psychiatry, formalized this development, providing funding and supervised international electives as well as hosting foreign students in a bilateral exchange. Under its auspices, three Yale medical students went abroad in 2007, the program's first year. Last year, 30 did.

Yale is not alone in providing international opportunities for its students. Carol A. Aschenbrener, M.D., chief medical education officer at the Association of American Medical Colleges, said that as of 2010, two-thirds of the 130 medical schools that responded to a survey said that they had integrated global health into their curricula. "Things that happen here affect health elsewhere in the world and conditions in other countries affect our health," she said. "Understanding the major issues in global health is really critical for future physicians."

No single approach

How can physicians and students be sure they'll be useful? Webb's clinic is designed to be a permanent presence in its community and effect long-term change. By contrast, Karunakara thinks MSF and other humanitarian aid organizations should stick to rapid relief and not take on capacity-building. "You're there to help people and not to help systems," he said; the goal of aid is to alleviate suffering rather than to alleviate poverty, which is the role of long-term development programs. MSF's long-term effects arise, he said, when the organization provides a model that can be scaled up by domestic authorities. "Very often, these demonstrations get taken up by other agencies, and they try it on, and they improve on it."

Whether doctors sign up for a one-week mission trip or join an organization like Health in Harmony or MSF with an aim to live abroad for months or years, there are some things to look out for. "Going with an organization that has been there for a long time in-country is important," said Bourdeaux. "Not just ones that are famous. Get a sense of their authenticity and street cred." She also recommended that physicians consider deploying not in the immediate wake of an acute emergency, but some time later, when world interest has receded.

However carefully chosen the organization, alumni say that whether a doctor will find international work satisfying may depend on the doctor. Bronzan recalls how one Western physician in Malawi reacted to the death of a child from severe meningitis. "He just lost it," she said, and recalled the man saying, " 'This is outrageous—in my entire career, no child has ever died of meningitis.'... He went ballistic and wanted to change everything." What he didn't appreciate was that children in that clinical setting had underlying medical and social conditions that sometimes made meningitis all but impossible to treat.

Webb echoes many international physicians who advise doctors to think past the altruistic satisfaction of a short trip. "Western physicians should only ever be going to teach and learn from their local colleagues," she said. "I think that the whole point is capacity building. It's not about tourism; it's not about getting your own experiences. It's about improving care for people in the long run." **YM**

—Jenny Blair, M.D. '04, is a freelance writer based in Austin, Texas. She spent a year at the Health in Harmony clinic in Borneo.

Bibhav Acharya M.D. '11, Jason Andrews M.D. '06, Sanjay Basu, M.D. '09, PH.D. '09, Duncan Smith-Rohrberg Maru, M.D. '09, PH.D. '09, and Ryan Schwarz M.D. '11, M.B.A. '11, while still in medical school, formed Nyaya, a clinic and hospital in a remote region of western Nepal. The hospital was founded with support from the Nepalese government and is completely staffed by local Nepalese health care providers.

Kyeen Mesesan Andersson, M.D. '07, PH.D. '07, uses mathematical models to study epidemics of infectious disease. Much of her research has focused on HIV prevention in South Africa. She is a senior modeler and policy analyst at the Futures Institute, a global health organization based in Glastonbury, Conn., that specializes in the design and implementation of public health and social programs for developing countries. She is also a member of the Clinical and Health Services Research Core at Yale's Center for Interdisciplinary Research on AIDS.

Dagan Coppock, M.D. '04, a poet and primary care physician who practiced near Boston, is spending two years in Botswana as a preceptor for Beth Israel Deaconness Medical Center's training program. He previously studied the poetry of traditional healers in Nigeria.

Kebba Jobarteh, M.D. '02, M.P.H., heads the HIV care and treatment program in Mozambique for the U.S. Centers for Disease Control and Prevention. He is a co-founder of Speak Up Young Africa, which has produced a documentary film highlighting the positive responses of young people to the HIV/AIDS epidemic in Uganda, Zambia, Zimbabwe, Nigeria, and Burkina Faso. Jobarteh, who has worked in a number of African countries, served as a Pediatric AIDS Corps physician in Malawi, where he also worked with Partners in Health as director of pediatrics and pediatric infectious diseases.

Eric Krakauer, PH.D. '91, M.D. '92, assistant professor of medicine, and of global health and social medicine at Harvard Medical School, and a practicing internist and palliative medicine specialist at Massachusetts General Hospital, has been working in Vietnam since 2001, when he founded the Vietnam-CDC-Harvard Medical School AIDS Partnership to provide training and technical assistance in HIV/AIDS treatment to physicians and nurses in partnership with the Ministry of Health. As director of international programs at the Harvard Medical School Center for Palliative Care since 2005, Krakauer has assisted Vietnam's Ministry of Health and major cancer centers and general hospitals to integrate pain relief and palliative care into the country's health care system. Recently, Krakauer began working with Partners In Health to integrate pain relief and palliative care into cancer, HIV, and non-communicable disease treatment programs in Rwanda and Malawi.

Roger Mason, M.D. '70, a vascular surgeon, worked in Trinidad and Tobago from 2004 to 2009 as a vascular surgeon, founding Caribbean Healing Arts, Ltd (CHA) in 2006 to improve the quality of health care in Caribbean emerging nations. CHA accomplishes its mission by building medical centers of excellence in Caribbean islands, recruiting "top docs" from North America and England who offer medical care to medical tourists as well as nationals. Profits from medical tourism operations subsidize care for nationals. Yale physicians and public health graduates who would like to participate in this effort are invited to contact Mason at shaman212@gmail.com.

Sarah Tishkoff, PH.D. '96, the David and Lyn Silfen Associate Professor in the departments of genetics and biology at the University of Pennsylvania's Perelman School of Medicine, studies the genetic history of Africa and has found greater genetic diversity among Africans than in any other ethnic group.

Are you a physician who writes or works in another of the fields we'll be profiling in our "Alumni Career Paths" series? Do you know medical school alumni, former Yale house staff, or fellows who are? Send us the names and then check the Web edition of *Yale Medicine* to view an expanding list of alumni with similar interests. You can write to us at ymm@yale.edu and view the list at yalemedicine.yale.edu.

"Alumni Career Paths" future topics:

- The front lines of clinical practice
- Academic medicine
- Sports medicine

Arthur Horwich

George Lister

Jorge Galán

John Carlson

Shaw prize for protein folding studies

ARTHUR HORWICH, M.D., HS '78, Sterling Professor of Genetics, professor of pediatrics, and a Howard Hughes Medical Institute investigator, received the Shaw Prize in Life Science and Medicine in May. Horwich is a co-winner, with his longtime collaborator Franz-Ulrich Hartl, **M.D., PH.D.**, of the Max Planck Institute of Biochemistry, for their research on how proteins fold into their functional state. The award, which comes with a $1 million prize, was announced by the Shaw Prize Foundation in Hong Kong.

Horwich and Hartl found that specialized proteins called chaperonins help proteins fold correctly within the cell. Their findings have implications for treating several diseases, because improperly folded proteins can clump together and are implicated in such neurodegenerative illnesses as Parkinson disease, Alzheimer disease, Huntington disease, mad cow disease, and amyotrophic lateral sclerosis, also known as Lou Gehrig's disease.

The Shaw Prizes, three annual awards in astronomy, life science and medicine, and mathematical sciences, honor living individuals who have achieved breakthroughs in academic and scientific research. The prizes are dedicated to furthering societal progress, enhancing quality of life, and enriching humanity's spiritual civilization.

Pediatric chair named after national search

GEORGE LISTER, M.D. '73, HS '75, has been named chair of pediatrics, chief of pediatrics at Yale-New Haven Hospital (**YNHH**), and physician in chief at Yale-New Haven Children's Hospital, marking his return to the school where he studied medicine, completed his residency, and served on the faculty for more than 20 years. Lister comes from the University of Texas Southwestern Medical School, where he is the Robert L. Moore Chair of Pediatrics. He is also pediatrician in chief at Children's Medical Center Dallas. He replaces **CLIFFORD BOGUE, M.D.**, who has served as interim chair since 2010.

After completing his residency and fellowships, Lister joined the faculty at the University of California, San Francisco, in 1977. He returned to Yale and **YNHH** in 1978, where he became professor of pediatrics and of anesthesiology. He founded the Section of Critical Care and Applied Physiology and was its chief for more than 20 years. In 2003 he moved to UT Southwestern.

In 1992 Lister was appointed by the National Institute of Child Health and Human Development to chair the steering committee of a national study of the Collaborative Home Infant Monitoring Evaluation, a program intended to test the rationale for home monitoring of infants at risk for **SIDS**. He has been an active member of the American Pediatric Society and the Society for Pediatric Research.

Two named to National Academy of Sciences

Two Yale professors were elected to the National Academy of Sciences (**NAS**) in May. **JORGE GALÁN, PH.D., D.V.M.**, the Lucille P. Markey Professor of Microbial Pathogenesis, professor of cell biology, and chair of the Section of Microbial Pathogenesis, and **JOHN CARLSON, PH.D.**, the Higgins Professor of Molecular, Cellular, and Developmental Biology, were among 84 new members and 21 foreign associates elected this year.

Galán is renowned for his research on the cell biology, biochemistry, immunobiology, and structural biology of the bacterial pathogens *Salmonella* and *Campylobacter*, which together cause most of the world's foodborne illness. His lab discovered novel molecular mechanisms that lead to infection and illness and represent potential targets for a new class of antimicrobials. Galán was recruited to Yale in 1998 to launch the section, and has since expanded it into a team of eight scientists who bring a variety of research methods to bear on infectious diseases ranging from tuberculosis and Legionnaires' disease to tropical parasitic diseases.

Carlson's work has advanced the fight against infectious diseases like malaria that are spread by insects. Carlson is one of the world's experts in insect olfaction. His group discovered a family of 60 genes that encode odorant receptors in *Drosophila*. In one experiment, Carlson's lab activated mosquito olfaction genes in a fruit fly, enabling researchers to identify chemicals in human sweat that attract mosquitoes.

Two faculty members take jobs in Washington

MIRIAM DELPHIN-RITTMON, PH.D., assistant professor of psychiatry, has accepted a political appointment in the administration of President Barack Obama as senior advisor to the administrator in the Substance Abuse and Mental Health Services Administration Office of Policy, Planning, and Innovation. Delphin-Rittmon will work on policy issues including the elimination of disparities; data, quality and evaluation efforts; and behavioral health service definitions. She has served as the director of the Office of Multicultural Affairs in Connecticut's Department of Mental Health and Addiction Services and as director of Cultural Competence and Health Disparities Research and Consultation in Yale's Program for Recovery and Community Health.

PHILIP RUBIN, PH.D., CEO of Haskins Laboratories and adjunct professor in the Department of Surgery (Otolaryngology), was appointed to key roles at the White House and the National Science Foundation in March. Rubin was named assistant director for social, behavioral, and economic sciences in the Executive Office of the President's Office of Science and Technology Policy. He will also serve as a senior advisor in the National Science Foundation's Social, Behavioral, and Economic Sciences directorate.


Diane Krause


Melinda Pettigrew


Peter Cresswell


Jonathan Demb


John Elefteriades


Jack Elias


Myron Genel


Valentina Greco

Diane Krause, M.D., PH.D., professor of laboratory medicine, of cell biology, and of pathology, and associate director of the Yale Stem Cell Center, and **Melinda M. Pettigrew**, PH.D., associate professor of epidemiology (microbial diseases), and associate dean for academic affairs in the School of Public Health, have been selected to participate in Executive Leadership in Academic Medicine, a year-long leadership training program for women in medicine.

Fifteen Yale faculty members, including 11 from the School of Medicine, were inducted into the Connecticut Academy of Science and Engineering in May at the academy's annual meeting. The inductees from the School of Medicine are **Susan J. Baserga**, M.D. '88, PH.D. '88, professor of molecular biophysics and biochemistry, of genetics, and of therapeutic radiology; **Linda K. Bockenstedt**, M.D., Harold W. Jockers Professor of Medicine (rheumatology); **Sharon W. Cui**, PH.D., senior research scientist; **Pietro De Camilli**, M.D., FW '79, the Eugene Higgins Professor of Cell Biology, professor of neurobiology, and a Howard Hughes Medical Institute investigator; **Ronald S. Duman**, PH.D., the Elizabeth Mears and House Jameson Professor of Psychiatry and professor of neurobiology and of pharmacology; **Jo Handelsman**, PH.D., the Frederick Phineas Rose Professor of Molecular, Cellular and Developmental Biology; **Kevan C. Herold**, M.D., professor of immunobiology and medicine (endocrinology); **William L. Jorgenson**, PH.D., Sterling Professor of Chemistry and director of the Division of Physical Sciences and Engineering; **Nancy A. Moran**, PH.D., the William H. Fleming, M.D. Professor of Ecology and Evolutionary Biology; **W. Mark Saltzman**, PH.D., the Goizueta Foundation Professor of Biomedical Engineering and professor of cellular and molecular physiology and of chemical engineering; and **Scott A. Strobel**, PH.D., the Henry Ford II Professor of Molecular Biophysics and Biochemistry, professor of chemistry, and Howard Hughes Medical Institute investigator.

Henry Binder, M.D., FW '65, senior research scientist and professor emeritus of medicine, received the Solomon A. Berson Medical Alumni Achievement Award in Clinical Science from the NYU School of Medicine in May. The award goes to a graduate of the NYU School of Medicine who has distinguished himself or herself by major accomplishments in clinical medical research. Binder has studied the regulation of colonic electrolyte transport, yielding knowledge of the pathophysiology of and improved treatment for diarrheal disorders, which has directly helped rural and developing peoples.

Peter Cresswell, PH.D., Eugene Higgins Professor of Immunobiology, professor of cell biology and of dermatology, and a Howard Hughes Medical Institute Investigator, received the AAI-Life Technologies Meritorious Career Award in May from the American Association of Immunologists for his contributions in the area of antigen processing and presentation.

Jonathan Demb, PH.D., associate professor of ophthalmology and visual science and of cellular and molecular physiology, received the Cogan Award in May from the Association for Research in Vision and Ophthalmology. The award recognizes a researcher who is 40 or younger who has made important contributions to research in ophthalmology or visual science.

John A. Elefteriades, M.D. '76, HS '83, the William W.L. Glenn Professor of Cardiothoracic Surgery, was elected to the International Academy of Cardiovascular Sciences. The academy provides the organizational structure for worldwide sharing of research and educational information in the field of heart health.

Jack Elias, M.D., professor of medicine and chair of the Department of Internal Medicine, delivered the J. Burns Amberson Lecture at this year's American Thoracic Society 2012 International Conference in San Francisco in May. This lecture honors individuals who have made major lifetime contributions to clinical or basic pulmonary research and/or clinical practice.

Myron Genel, M.D., professor emeritus and senior research scientist in pediatrics, has received the 2012 Stepping Up for Children Award from the Stepping Stones Museum for Children in Norwalk, Conn. The award recognizes individuals, nonprofit organizations, or companies that demonstrate a commitment to improving and enriching the lives of children and families.

Valentina Greco, PH.D., assistant professor of genetics, is the recipient of a 2012 Research Scholar Grant from the American Cancer Society to support her project, "Stem Cell Deregulation during Tumor Regression."

Tamas Horvath, D.V.M., PH.D., chair of the Section of Comparative Medicine and director of the Yale Program in Integrative Cell Signaling and Neurobiology of Metabolism, received the 2012 Ernst Oppenheimer Award in June, one of the Endocrine Society's Laureate Awards. Horvath's work over the last 15 years has played a key role in the development of the currently accepted model of neuroendocrine regulation of energy balance.

Joan A. Steitz, PH.D., Sterling Professor of Molecular Biophysics and Biochemistry, received the degree of doctor of science *honoris causa* from Rockefeller University in June. Steitz is best known for discovering and defining the function of small nuclear ribonucleoproteins, cellular complexes that play a key role in the splicing of pre-messenger RNA, the earliest product of DNA transcription.

Hugh Taylor, M.D., professor of obstetrics, gynecology, and reproductive sciences, and director of the Division of Reproductive Endocrinology and Infertility, was selected by the Endometriosis Foundation of America as its 2012 honoree in March.

Howard Zonana, M.D., professor of psychiatry, received the 2012 Isaac Ray Award from the American Psychiatric Association and the American Academy of Psychiatry and the Law in May. This honor was awarded for Zonana's decades of leadership and outstanding achievements in forensic psychiatry.

SEND FACULTY NEWS TO
Claire M. Bessinger, *Yale Medicine*, 1 Church Street, Suite 300, New Haven, CT 06510, or via e-mail to claire.bessinger@yale.edu

Medical care and human rights in Uganda

Doctors' practice of detaining patients who can't pay their bills is focus of a student's documentary.

Esther sits outside her mud hut home in front of a rust-red tree framed by the lush vegetation of the central Ugandan countryside and tells her shocking story. For more than two months her doctor had imprisoned her behind a locked gate and barbed wire-topped fence. She received no food, relying for sustenance on visitors and her son, whom the doctor also detained and compelled to work as a guard and laborer.

The reason for the detention: Esther owed $65 of $200 for an operation that cured her of a crippling disease. But Esther is reluctant to condemn the doctor too harshly. He operated on her when no one else would.

"I just pray that God forgives him for what he has done," she said.

Esther plays a pivotal role in a documentary by Michael Otremba, M.D. '12, which explores the detention of Ugandan patients unable to pay their bills. The movie is titled *Twero*, which means "right to health" in Luo, the language of that part of Uganda. Otremba, who devoted his fifth year at the School of Medicine to the project, wanted to combine his interests in human rights and the visual arts. He paints, and as a first-year student he organized a Christo-like art project that involved wrapping anatomy tables in pink ["End Note," *Yale Medicine*, Autumn 2008]. Although Otremba had been to Uganda twice, he knew nothing about film.

In stepped Gretchen K. Berland, M.D., associate professor of medicine, an accomplished documentary filmmaker, and recipient of a MacArthur "genius" grant, whose work includes the award-winning *Rolling* about wheelchair users. Berland schooled Otremba in moviemaking, provided weekly advice by phone during six months of filming in Uganda, and helped edit 50 hours of raw footage. She was careful to ensure that the film remained Otremba's. "It's very easy for the mentor, as someone with more experience, to take over," Berland said.

Berland's assistance was crucial, Otremba said. Her most valuable insight: interviewing documentary subjects is like interviewing patients. In both cases, you are asking them to open up and tell truths. Berland also helped Otremba with an ethical dilemma when he filmed a father who could afford malaria medication for only one of his two daughters. Otremba arranged treatment for both girls.

What appears to be a black-and-white story isn't; and conveying that reality is the film's biggest challenge. "In some ways, there's an understanding of the doctors' plight," Otremba said. "Only 60 percent of Ugandan physicians stay in the country, and not many are willing to work in these rural areas. I don't think in any way it's okay. But it is difficult when you meet a bunch of physicians. They make so little money, and they are the only ones around."

A doctor who detains patients—not the one who treated Esther—justified the practice, saying he needs to pay his bills. He added that he always treats first even though he knows that 30 to 40 percent of patients can't pay the full fee. "It's a controversial and disturbing practice," Berland said. "Patient detention is part of a larger set of responses to an inadequate health system."

Patient detentions are a symptom of larger systemic problems, including corruption, funding shortages, and a culture maimed by years of civil war, Otremba said. He hopes to enter his 30-minute movie in human rights film festivals and plans to show it to policy makers in human rights, but isn't about to give up his stethoscope. "This reinforced that I want to be a doctor," he said. "I like being able to help."

In August Otremba learned that he had received one of six awards conferred in 2012 by the international consortium, Networked Digital Library of Theses and Dissertations, for his film. The awards recognize students who have written exemplary electronic theses and dissertations. *Twero: The Road to Health* can be viewed at vimeo.com/47748677. The password is twerofilm.

—*Christopher Hoffman*

TERRY DAGRADI

Gretchen Berland, a physician and award-winning documentary filmmaker, served as a mentor to medical student Michael Otremba as he made a film about the provision of medical care and human rights in Uganda.

FDA review process faster than in other countries, med student reports in NEJM

Somewhere between his board examinations and his wedding this spring, medical student Nicholas Downing found time to be the lead author on a paper published in a prestigious clinical journal. The paper, published online in May and in print in June in *The New England Journal of Medicine*, challenges criticism that the Food and Drug Administration's (FDA) drug review process is too slow. According to the paper, the FDA approved drugs faster on average than peer agencies in Europe and Canada between 2001 and 2010.

"It's a huge accomplishment," said Joseph Ross, M.D., M.H.S. '06, assistant professor of medicine and senior author of the paper.

And it's not Downing's first publication. He also published a paper in April in *Archives of Internal Medicine* describing how a pharmaceutical company used reformulations to dominate the market for fenofibrate, a drug given to treat high cholesterol levels, for over a decade despite numerous generic formulations of the drug.

Downing, an American citizen, grew up in London and attended Harvard, graduating in 2007 with a degree in chemistry. He then worked for three years at McKinsey & Company, an international management consulting firm. As a business analyst and engagement manager, Downing worked mostly with pharmaceutical companies and, to a lesser extent, with hospitals. "I didn't really understand the clinical and human side of medicine," he said, "and that was kind of a stimulus that got me interested in exploring what a medical career could look like.

"Medicine is not immune to market forces," he said, but added that few people understand both "the realities of business ... (and) the nuances and human side of clinical medicine."

During his first year at Yale, Downing approached Ross and Harlan Krumholz, M.D., the Harold H. Hines Jr. Professor of Medicine (cardiology) and professor of investigative medicine and of public health (health policy), and the director of the Robert Wood Johnson Foundation Clinical Scholars Program, about a summer research project. Ross and Krumholz were interested in research about the pharmaceutical industry, and Downing had business experience in pharmaceuticals—the perfect partnership.

The idea for the FDA study emerged from the impending reauthorization of the Prescription Drug User Fee Act (PDUFA), which was first enacted in 1992 to allow the FDA to collect fees from drug companies to fund the process of new drug approval. In addition, there had been "a lot of noise about the FDA being slow" in the media, Downing said.

But this need for speed must be balanced by quality assurance, Downing added. As a result, it wasn't clear what the appropriate speed might be, so the team decided to compare the FDA with peer agencies in Europe and Canada.

The team found that the FDA reviewed applications for new molecular entities or biologic drugs more rapidly on average than the European Medicines Agency and Health Canada from 2001 to 2010. Downing's team found that the FDA completed its initial reviews 50 to 60 days ahead of the other two agencies, with its median time for completion being 303 days. And for 72 drugs that were approved by all three agencies, the FDA's first review time was about 100 days faster. For those drugs approved in at least two regions, two-thirds were first approved in the United States.

JOHN CURTIS

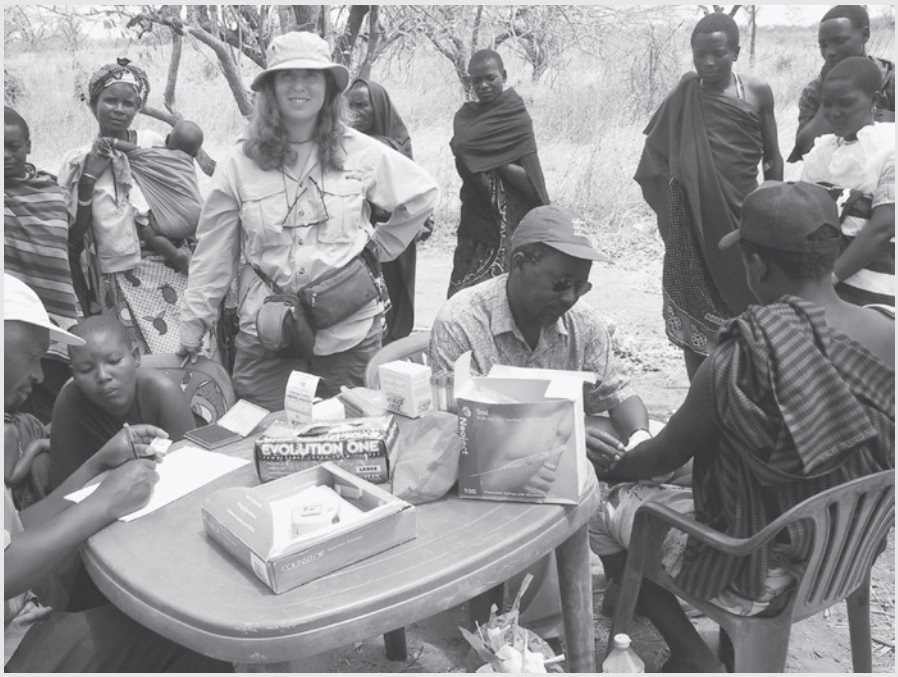
Nicholas Downing's research into how long it takes the FDA to approve novel therapies was published in *The New England Journal of Medicine*.

The report concludes that given the FDA's lead over its peer institutions, criticisms about the inefficiency of the agency's review process for novel drugs may be unfounded.

The study is important because "it injected some objective information into what had become a relatively subjective debate," Downing said. PDUFA V, the fourth reauthorization of the 1992 act, was signed into law by President Barack Obama on July 9.

Downing said the team's next step is to examine the quality of the FDA's drug reviews. "I think it's the responsibility of every physician to understand the safety and efficacy profile of every single drug that they use," he said.

—*Natalie Villacorta*



COURTESY OF SARAH TISHKOFF

Seeking a continent's history in its DNA

A Yale alumna finds clues to agriculture, malaria, lactose tolerance, and pygmies' stature in Africans' genes.

Sarah Tishkoff, PH.D. '96, has lost count of the trips she's made to Africa since 2001 to study the continent's genetic history. "By looking at your blood," she explains to sub-Saharan villagers, "we can learn something about your mother, your father, your grandparents."

Through the villagers' DNA, Tishkoff has traced the history of malaria and dairy farming. She's suggested a link between pygmies' stature and a genetic mutation that strengthens their immune systems. She's found the common ancestors of East Africa's only two click-speaking populations. And her studies reveal greater genetic diversity among Africans than in any other ethnic group and suggest that all humans came from Africa more recently than previously believed.

Her most recent research, featured on the cover of the August 3 issue of the journal *Cell*, analyzed the fully sequenced genomes of 15 Africans from three hunter-gatherer groups. The study—which she described as the first high-coverage whole-genome population genomics study in humans and the most extensive in Africa—identifies several million previously unknown genetic mutations in humans, finds evidence that the direct ancestors of modern humans may have interbred with members of an unknown ancestral group of hominins, and suggests that different groups evolved distinctly in order to reap nutrition from local foods and defend against infectious disease. "Our analysis sheds light on human evolution, because the individuals we sampled are descended from groups that may have been ancestral to all other modern humans," Tishkoff said. "A message we're seeing is that even though all the individuals we sampled are hunter-gatherers, natural selection has acted differently in these different groups."

Her work has attracted attention from *Scientific American*, *National Geographic*, and PBS's *Nova*. But none have been more interested than the villagers themselves. "In one village, a man had a copy of the Jehovah's Witnesses' magazine *Watchtower* with a picture of a double helix in it. He asked me, 'That's what you're studying, right?' I said, 'That's right.' And he said, 'So could you trace where the blacks in the U.S. are from?' "

Studies of Africans were scarce when Tishkoff came to Yale in 1989. Her advisor, Kenneth K. Kidd, PH.D., professor of genetics, of ecology and evolutionary biology and of psychiatry, had DNA samples from just two African populations in his lab. "The Mbuti and Biaka Pygmies from Central Africa are probably the least representative of African populations, but nobody knew that at the time," said Tishkoff, the David and Lyn Silfen University Professor in the departments of genetics and biology at the University of Pennsylvania Perelman School of Medicine.

Tishkoff found more than she expected in those samples, specifically in a stretch of DNA on chromosome 12. "All Europeans looked similar to each other. All Asians looked similar to each other. But I wasn't seeing anything similar in these African groups," she said. "So I looked through the literature, contacted the people who were studying Africans, asked if they'd like to collaborate; they sent some DNA, and we ended up publishing in *Science* in 1996."

In the study, Tishkoff, Kidd, and their collaborators revealed more genetic diversity among sub-Saharan Africans than among Northern Africans or non-Africans and suggested that humans came from Africa about 100,000 years ago. While researchers already favored the Out-of-Africa theory over a multi regional theory, Tishkoff's study was the first to support it by using the same type of DNA used in forensics—nuclear DNA, which reveals more about an

Sarah Tishkoff is seeking clues to Africa's genetic history and, through DNA samples, has traced the history of malaria and dairy farming and found a possible clue to pygmies' stature. In Tanzania in 2001 she collected blood samples from villagers.

individual's evolutionary history than does mitochondrial DNA.

When scrutiny of other genes continued to suggest that Africans differed more widely from one another than from anyone else, Tishkoff wanted to know the continent's entire genetic history. She started in South Africa in 1997, where, as a postdoc at the University of Witwatersrand, she first heard about the Hadza and Sandawe of Tanzania. Though the two groups are the only click-speakers in East Africa, no one knew whether they are related. Tishkoff had to find out.

While waiting for local permissions for studies in Tanzania and Ethiopia (it took years), she continued her postdoctoral work at Pennsylvania State University, studying a gene related to malaria resistance. By determining when the gene first appeared in African populations, Tishkoff and her colleagues provided support for a long-held theory that malaria became endemic only after agriculture had been introduced.

Tishkoff was a professor at the University of Maryland when she and her team finally got permission to conduct her studies in Tanzania in 2001. She traveled the country in a Land Rover whose floor had almost completely rusted out. The vehicle, however, proved its worth—the team connected their centrifuge to that rusty Land Rover to process blood samples. The Bush Lab, as they dubbed the vehicle, helped Tishkoff, students, and collaborators learn that the click-speakers' last common ancestors had lived 15,000 years ago. The languages and the people were barely related. The team also linked the gene responsible for lactose tolerance in Africans to the beginning of African dairy farming 7,000 years ago.

African collaborators, including researchers, nurses, and schoolteachers, are a major key to Tishkoff's success. Through a study of 121 African populations, four African American, and 60 non-African populations, Tishkoff and her collaborators have shown that Africans have the highest level of intrapopulation genetic diversity. The knowledge that Africans are more diverse than other populations will affect future study designs and biomedical research and—Tishkoff hopes—encourage further study.

Throughout her work, Tishkoff has trained numerous African scientists from high school to the postdoctoral level to carry on research in Africa themselves. "That's one of the things I am most proud of."

—*Sonya Collins*

Africa beckons two Yale practitioners after long careers in medicine

Three years ago, an unexpected postcard arrived in the Denver mailbox of Christopher (Kip) Doran, M.D. '73, and Maureen O'Keefe Doran, M.S.N. '71. It was an invitation to a reception for potential Peace Corps volunteers over the age of 50. Intrigued, they went. As they walked out Kip recalled, "We looked at each other and said, 'We could do that.' "

The Dorans had spent 30 years in Denver, where they lived, worked, and raised two daughters. Both taught at the University of Colorado, both were heavily involved in community organizations, and both had private practices —Kip in psychiatry and Maureen as a mental health nurse practitioner. It wasn't easy to disengage, and yet the prospect of such an adventure felt like "a second breath of life."

So they signed up and as they wound down their practices, they learned they would be sent to Botswana. They flew to Africa, where a three-month home stay with a Botswana family immersed the Dorans in language, culture, and HIV issues (a quarter of young adults in Botswana are HIV-positive). They settled into Ramotswa, a town of 28,000 about 45 minutes from the capital. There they served from April 2009 to June 2011 as teachers and mentors. Though neither Doran was permitted to work clinically with patients, they used their teaching skills in medicine. Kip planned and implemented educational activities at the district AIDS coordinator's office while Maureen taught high school guidance classes, helping students build self-esteem and leadership skills with an eye to HIV prevention. They wrote a textbook teaching parents how to talk to children about sex, sexuality, and HIV. And they taught a mental health course at the newly opened national medical school, encouraging students to study medicine in "the American way" of learning, group discussion, role-playing,

Kip and Maureen Doran put their private practices in Denver on hold to join the Peace Corps and work as teachers and mentors in Botswana for two years. They also found time to visit the Mokolodi Nature Reserve, a protected environmental and conservation area outside the capital, Gaborone.

COURTESY OF CHRISTOPHER AND MAUREEN DORAN

and interview practice. It went over well with the students, who gave the class top satisfaction ratings. All in all, said Maureen, Botswana "was a wonderful match for us."

Far from being a hindrance, the Dorans' age worked in their favor. "Age is respected in Botswana culture," said Kip—he was 63 and his wife 62 when they began their service. "I was male, I was older, and I was a physician. When I talked, people listened." Maureen agreed, recalling that when villagers greeted them in Setswana with "*Dumela mogolo*" (Hello, old people!), it was "the highest compliment you could get."

Maureen noted that being older allows Peace Corps volunteers to stay focused and keep the long view during difficult moments. Taking time off to work abroad may also be easier for older people than for those in midlife who are still establishing careers. Since the early 2000s, the Peace Corps has actively recruited older volunteers, in part by reaching out to AARP members. By 2005, 6 percent of Peace Corps volunteers were older than 50, up from 1 percent in previous decades.

Regardless of volunteers' ages, though, the Peace Corps is no vacation. The Dorans commuted on foot and brought groceries home in backpacks; their house was unheated, and they were often cold. There were disturbing incidents, like a student death from HIV-related meningitis. Hardest was refraining from meeting problems with culturally unworkable solutions. When faced with a problem, said Maureen, "You have to be able to be quiet with yourself, to look and see how the locals are doing it. ... Things get done, but not with the speed or efficiency we would sometimes have wished for."

"One of the things that impressed me is [that] it's hard to help," said Kip. Even with funding from large organizations like the Gates Foundation or PEPFAR, he said, "It's hard to use that money wisely and intelligently."

The Dorans' Peace Corps service continues in a new way. One of the organization's goals is promoting Americans' understanding of other cultures; Kip and Maureen have taken that to heart, giving frequent presentations about their two years in Botswana. They've come a long way from their first uncertain days as foreign volunteers. "I kept saying to Kip, 'I don't like change! Why am I doing this? I like stability!' " Maureen recalled. "But I'm very, very glad that we did.

"It's something to do for America," she added, "for your country. I don't think it's ever too late to consider doing that."

—*Jenny Blair, M.D. '04*

Familiar *Faces*

Do you have a colleague who is making a difference in medicine or has followed an unusual path since leaving Yale? We'd like to hear about alumni of the School of Medicine; Physician Associate Program; and the medical school's doctoral, fellowship, and residency programs. Drop us a line at ymm@yale.edu or write to Faces, *Yale Medicine*, 1 Church Street, Suite 300, New Haven, CT 06510.


Philip Di Saia


Edward Halperin


C. Seth Landefeld


John Patti


Kenneth Andreoni


Jeffrey Carpenter


Cynthia Lord


Robin Smith

1950s

Robert J.T. Joy, M.D. '54, received the 2012 Lifetime Achievement Award from the American Association for the History of Medicine. The Lifetime Achievement Award is given annually to a member of the association who has retired from regular institutional affiliation or practice with a distinguished record of support for the history of medicine and has made continuing scholarly contributions of a distinguished nature.

1960s

A chair has been established at the University of California, Irvine, in recognition of **Philip J. Di Saia**, M.D., HS '67, and his more than 30 years of service to the Department of Obstetrics and Gynecology's Division of Gynecologic Oncology. Di Saia, the former chief of the division, helped the school become a leader in women's cancer care. Robert Bristow, M.D., was named the inaugural holder of the Philip J. Di Saia Prestigious Chair in Gynecologic Oncology in January.

Arthur I. Eidelman, M.D., HS '67, FW '67, has been elected president of the Academy of Breastfeeding Medicine. As chair of the policy committee of the section of breastfeeding of the American Academy of Pediatrics (AAP), he is the lead author of the new AAP policy statement on breastfeeding, published in *Pediatrics* in March 2012.

David J. McConnell, M.D. '62, has been named clinical professor emeritus of medicine at Columbia University College of Physicians and Surgeons.

1970s

Edward C. Halperin, M.D. '79, has been named chancellor for health affairs, chief executive officer, and professor of radiation oncology, pediatrics, and history at New York Medical College in Valhalla, N.Y. He was also named vice provost for biomedical affairs of the Touro College and University System. Halperin was previously dean of the school of medicine and vice provost of the University of Louisville in Kentucky.

C. Seth Landefeld, M.D. '79, has been named chair of the Department of Medicine at the University of Alabama at Birmingham. Landefeld, an internationally known clinician and researcher in geriatrics, epidemiology, and biostatistics, previously served as chief of the Division of Geriatrics and associate chair for strategic planning and implementation of the Department of Medicine at the University of California, San Francisco.

John A. Patti, M.D. '71, was elected president of the American College of Radiology (ACR) in May. Patti, the immediate past chair of the ACR Board of Chancellors, is a thoracic radiologist at Massachusetts General Hospital and a member of the faculty of Harvard Medical School.

1980s

Kenneth Andreoni, M.D. '88, was elected vice president/president-elect of the United Network for Organ Sharing, which manages the nation's organ transplant network under federal contract.

Jeffrey P. Carpenter, M.D. '86, has been named the inaugural chair of the Department of Surgery at the newly formed Cooper Medical School of Rowan University in Camden, N.J. He was previously professor of surgery at the University of Pennsylvania.

Barbara G. Fallon, M.D. '80, has been named medical director of the breast program at the Hospital of Central Connecticut in New Britain. Fallon, a hematologist-oncologist, was previously in private practice.

1990s

Cynthia B. Lord, M.H.S., PA-C '91, a clinical associate professor in Quinnipiac University's PA program, received the 2012 Outstanding PA of the Year Award from the American Academy of Physician Assistants at its annual conference in Toronto in May.

Robin L. Smith, M.D. '92, M.B.A., has been chair of the advisory board of NeoStem, a leader in the development and manufacturing of cellular therapies, since 2005, and in 2006 became the chief executive officer and chair of the board. She is the president and serves on the board of the Stem for Life Foundation, a nonprofit and nonpartisan organization.

2000s

Phillip P. Chan, M.D. '00, PH.D. '00, CEO of CytoSorbents Corporation, was named a finalist in the Ernst & Young Entrepreneur of The Year® 2012 program in the New Jersey region. The award recognizes entrepreneurs who have demonstrated success in such areas as innovation, financial performance, and personal commitment to their businesses and communities. Chan has been CEO and president of the company since 2009.

Garth N. Graham, M.D. '01, M.P.H. '01, has been named to the advisory board of LodgeNet Healthcare, a company that develops evidence-based, customizable tools that enable hospitals to engage patients and their families before, during, and after hospitalization. Graham is the assistant dean for health policy and the chief of the Section of Health Services Research at the University of Florida College of Medicine.

2010s

Elliot J. Rapp, M.D. '11, received the 2012 Massachusetts Medical Society's Information Technology Award in June for his project Cube Knowledge, a software-based learning platform for self-testing and spaced repetition suited to the study of medical information. Rapp began a diagnostic radiology residency at the University of Washington in July.

SEND ALUMNI NEWS TO
Claire M. Bessinger, *Yale Medicine*, 1 Church Street, Suite 300, New Haven, CT 06510, or via e-mail to claire.bessinger@yale.edu

VISIT US ON THE WEB
yalemedicine.yale.edu

Arthur Edward Baue, M.D., the former chair of the Department of Surgery at Yale, died at home in Hamden, Conn., on December 28, 2011. He was 82. Baue devoted much of his career to the study of shock following trauma and is credited with defining the concept of posttraumatic multiple organ failure in the care and study of injured patients. A graduate of Harvard Medical School, he performed his general surgery training at Massachusetts General Hospital before pursuing advanced thoracic surgical training in 1962 at the Frenchay Hospital in North Bristol, England. He then returned to the United States; after a year at the University of Missouri School of Medicine, he was recruited by the University of Pennsylvania in 1963. Baue returned to Missouri in 1967 as the surgeon in chief and Edison Professor of Surgery at the Jewish Hospital of St. Louis. In 1975 he was recruited to Yale as the Guthrie Professor and chair of the Department of Surgery as well as surgeon in chief of Yale-New Haven Hospital. He returned to St. Louis University Medical Center as a professor of surgery in 1985 and retired in 1997.

James J. Fischer, M.D., PH.D., HS '65, chair of the Department of Therapeutic Radiology at the School of Medicine from 1972 to 2002, died while running on the beach near his home in Madison, Conn., on February 22. He was 75. Fischer received his undergraduate degree from Yale in 1957, his medical degree from Harvard in 1961, and his PH.D. in 1964. He conducted pioneering studies on the use of nuclear magnetic resonance to study enzyme complexes, publishing a seminal paper on the topic in *Nature* in 1963. He returned to Yale in 1964 for an internship in internal medicine under Paul Beeson, M.D., then trained as a clinical and research fellow in the Department of Radiology. Fischer was named the Robert E. Hunter Professor when radiation therapy became a free-standing department in 1972. He was also appointed chair of the new department, a position he held until 2002.

Gilbert H. Glaser, M.D., the founding chair of the Department of Neurology, died on January 21, 2012, at the Hospital of Saint Raphael in New Haven. He was 91. Glaser was a professor emeritus at the School of Medicine and considered an international authority on epilepsy. He is widely acknowledged as one of the founders of neurology as an independent discipline.

Glaser received his undergraduate and medical degrees from Columbia University and trained at the Neurological Institute of Columbia University. From 1946 through 1948, he served as director of the electroencephalography laboratory at Brooke Army Medical Center in Texas. Glaser was an assistant attending and chief of the neurology clinic at the Neurology Institute in New York before moving to Yale in 1952 as assistant professor and head of the Section of Neurology, then a division within the Department of Medicine. He was appointed a full professor in 1963. Neurology became a free-standing department in 1971, with Glaser serving as its chair until his semiretirement in 1986. He retired fully in 1991.

John P. Hayslett, M.D., HS '66, FW '67, professor emeritus of medicine and founding chief of the Section of Nephrology, died at Connecticut Hospice on April 15. He was 77. Hayslett earned his medical degree in 1960 from Cornell University Medical College. He came to Yale in 1960 and served in administrative roles, including director of the Dana Medical Clinic, president of the medical staff of Yale-New Haven Hospital, and medical director of the Yale Physician Associate (PA) Program. A tireless advocate of the PA profession, he revised the curriculum to allow the program to confer the master of medical sciences degree and advised students and faculty on their research projects. An inpatient medicine team at the VA Connecticut Healthcare System's West Haven campus was named in his honor in 2011 in recognition of his outstanding service as a clinician and educator at that institution.

Howard M. Spiro, M.D., the founding section chief of gastroenterology in the Department of Internal Medicine and founding director of the Yale Program for Humanities in Medicine, died on March 11 in Branford, Conn., after a brief illness. He was 87.

Spiro graduated from Harvard College in 1944 and received his medical degree from Harvard in 1947. After completing an internship at the Peter Bent Brigham Hospital (now Brigham and Women's Hospital), he remained there to pursue research, primarily on gastrointestinal physiology. After serving for two years in the military as chief of gastroenterology at Madigan Army Hospital in Tacoma, Wash., he returned to Boston to spend two years in research at Massachusetts General Hospital.

Spiro was recruited to Yale in 1955 by Paul Beeson, M.D., to establish the first full-time academic gastroenterology section at Yale. His ambition was to establish a nationally recognized academic research section of gastroenterology and to incorporate both medical and psychological concerns in the teaching and provision of patient care. Spiro was well-known for his strong dedication to patients and bedside teaching.

In 1965 he established the Yale-Affiliated Gastroenterology Program, an educational collaboration among fellowship training programs in south-central Connecticut. He was a prolific writer, with publications ranging from his textbook *Clinical Gastroenterology* and scientific peer-reviewed papers to the popular books *Doctors, Patients and Placebos*; *When Doctors Get Sick*; and *Facing Death*. Spiro, along with Enid Peschel, PH.D., a medical researcher and educator, established the Yale Program for Humanities in Medicine in 1982. Students, faculty, and members of the public would gather weekly to sip sherry and listen to speakers address topics breaching the boundaries between medicine and the humanities, including art, history, music, and politics.

Raymond S. Yesner, M.D., professor emeritus of pathology, former associate dean of the School of Medicine, and senior research scientist, died at his home in Woodbridge, Conn., on February 8. He was 97.

Yesner's education began in a one-room schoolhouse in Wellington, Maine; he later attended P.S. 19 in New York City before high school at Boston Latin. At 16, he graduated with an academic scholarship to Harvard College. He chose Tufts for his medical education and completed his internship and residency at the Beth Israel Hospital in Boston. Yesner joined the School of Medicine in 1947 as an assistant professor and became chief of laboratory medicine at the VA Hospital in West Haven in 1953. He served as associate dean of the School of Medicine from 1968 to 1974. In 1969 he was promoted to chief of staff of the VA. He served as director of the electron microscope laboratory there until he became the director of the autopsy service at Yale. Yesner made significant contributions to the understanding of lung tumors and their pathology.

SEND OBITUARY NOTICES TO
Claire M. Bessinger, *Yale Medicine*, 1 Church Street, Suite 300, New Haven, CT 06510, or via e-mail to claire.bessinger@yale.edu

Commencement 2012

Richard Belitsky presented Lara Rosenberg with her diploma at the Class of 2012 Commencement in May. One hundred medical students received their diplomas and heard from keynote speaker neurosurgeon Ben Carson. For more on Commencement, visit medicine.yale.edu/Commencement2012.aspx.

TERRY DAGRADI