

Urban Joblessness • John Monroe • Intricacies of Race

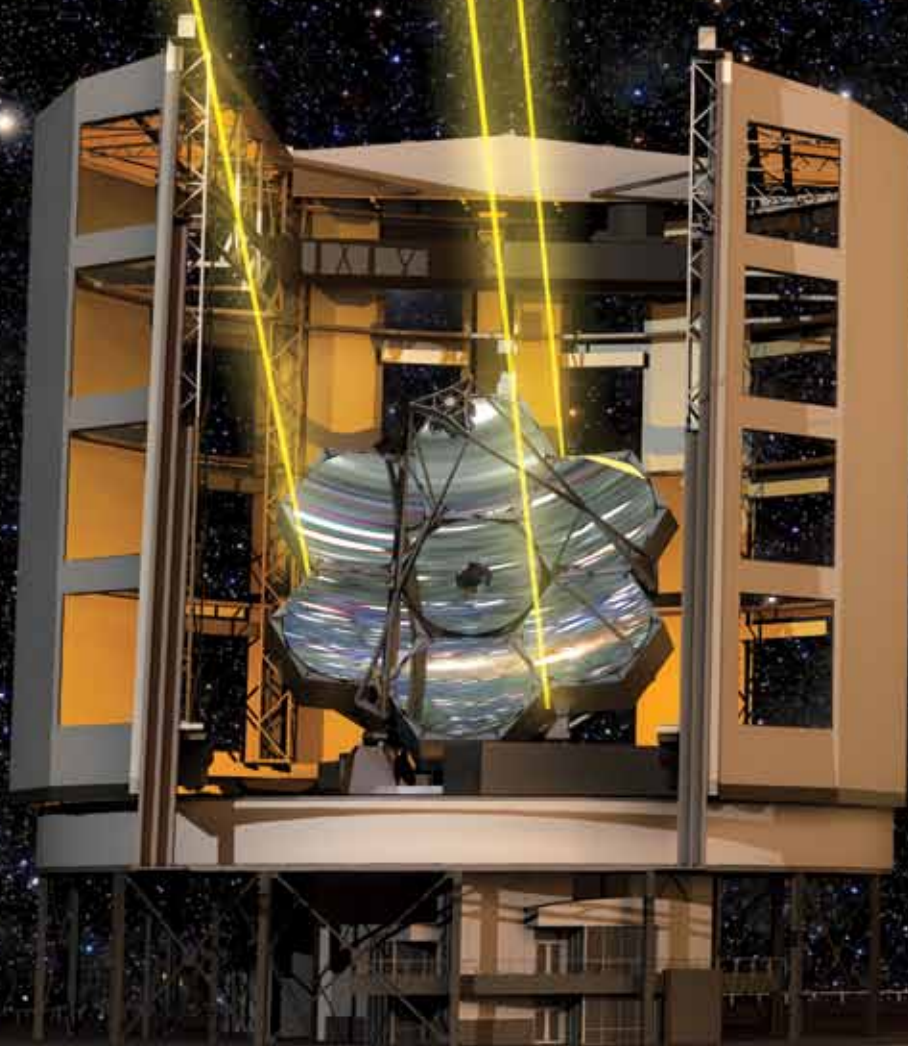
HARVARD

MAGAZINE

MAY-JUNE 2013 • \$4.95

Seeing
into
Space

Building
the Giant
Magellan
Telescope





Hammond Residential



Cambridge...Beautiful Avon Hill Victorian on lovely corner lot with landscaped gardens, patios, pergola. Open floor plan, generous rooms, preserved detail. 5 bedrooms. Brick driveway for two cars. **\$2,750,000**



Belmont...Mid-Century Modern Contemporary in Belmont Hill. Open floor plan with clean lines and soaring ceilings. 4 bedrooms, 3 bathrooms, central-air, 2-car garage. **\$850,000**



Cambridge...Unusually beautiful and spacious Colonial Revival at summit of Avon Hill. Many bedrooms/studies. Lovely master suite. Gorgeous kitchen. Garden. Garage. **\$1,965,000**



Boston...Exquisite, floor-through, penthouse condo overlooking Boston's Public Gardens. Exclusive 45'x 15' panoramic roof deck. 3 bedrooms, 3 baths with 2,943 sq. ft. and 2 large skylights. Direct elevator access on the Flats of Beacon Hill. **\$3,900,000**



Cambridge...Elegant condominium near bustling Central Square. Renovated, 2+ bedrooms, 1½ baths, laundry, parking. 1 block to the T. More info at 2SPS.com. **\$588,000**



Cambridge...Immaculate 2003 town house near MIT and the Charles. 3 bedrooms and 2½ baths. Open plan living space. Enclosed bluestone patio and garden. Parking. **\$1,285,000**



Cambridge...Wonderful single family in the leafy Larches neighborhood. 4 bedrooms, 3 baths, renovated kitchen, yard, garage. More info at 53FPL.com. **\$1,288,000**



Cambridge...Grand Queen Anne—north of Brattle. 2010 rehab. Main house: 6 bedrooms, 4½ baths. Auxiliary apartment. 6 fireplaces. Landscaped grounds. Garage. **\$3,700,000**

NE Regional readers:
turn to page 24B to see
more local listings from
Hammond Residential.
National readers, visit:
hammondmagazines.com

Page 24B



www.hammondre.com

Cambridge, Belmont, Watertown & Somerville
Residential, Commercial, Rentals & Property Management
Cambridge Office 617-497-4400 • Belmont Office 617-484-1900

View our latest interactive on-line magazine at: www.hammondmagazines.com



page 22

HARVARD

MAGAZINE



page 9

TOM MOSSEY

FEATURES

25 Black, White, and Many Shades of Gray

The Law School's Randall Kennedy challenges head-on the intricacies of race in America

by CRAIG LAMBERT

DEPARTMENTS

2 7 Ware Street

5 Cambridge 02138
Communications from our readers

9 Right Now
On the genetic track of human diversity, small-scale living large, medical mis-modeling with mice



17 Montage
A contemporary fairy tale of good and evil, the invention of napalm, documenting pigmentation and personhood, the founding ornithologist, Louis Agassiz's complexities, and more

24A Commencement and Reunion Guide
Special seniors, Happy Committee headgear, the week's events, celebratory cuisine, and the campus under construction

57 The Alumni
Actors' Equity's leading man, and election slates

60 The College Pump
From a hole in the ground to Harvard: "Lighthouse Thomas," class of 1838

68 Treasure
Harmonic Islamic art

61 Crimson Classifieds

On the cover: The Giant Magellan Telescope in operation, in a rendering by Todd Mason/ Courtesy GMTO Corporation

page 11

30 Vita: John Usher Monro

Brief life of an uncommon educator: 1912-2002

by TONI-LEE CAPOSSELA

32 Seeing Stars

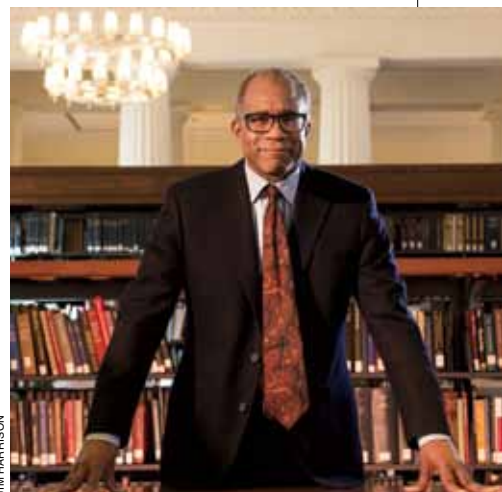
The big science of creating a bigger telescope, the better to search for Earth-like planets and probe the origins of the universe

by JOHN S. ROSENBERG

42 Forum: The Urban Jobs Crisis

Understanding acute unemployment, and the policies required to bring low-income blacks and Latinos into the workforce

by JAMES M. QUANE, WILLIAM JULIUS WILSON, and JACKELYN HWANG



JIM HARRISON

page 25



MIRING

46 John Harvard's Journal

Basketball's NCAA breakthrough, from cheating inquiry to e-mail investigations, HarvardX from infancy to adolescence, when students really *did* get mail, globe-trotting drama scholar, capital-campaign chatter, the Undergraduate's adoptive local family, Oprah on deck, and an athlete's vaulting ambitions—and accomplishments

Some Changes

ON HEARING of the death of Anthony Lewis '48, NF '57, on March 25, we turned, parochially, to his 1947-1948 Undergraduate columns (reproduced at <http://harvard-mag.com/lewis>) and his early letters to the magazine. They exhibit the strong writing and clear focus on basic issues (free speech, women's rights, higher education, a world perspective) that characterized his reporting career. Lewis was a valuable director of



Anthony Lewis

the magazine from 1998 to 2004, and long served as an Incorporator—as does his wife, the Honorable Margaret H. Marshall, Ed.M. '69, Ed '77, L '78. Among the Crimson tributes deservedly sent his way, James Fallows '70 wrote for *The Atlantic*.com, “Tony Lewis was a remarkably generous, patient, and good-humored mentor and sponsor to young people trying to make their way” in journalism and the law. Lewis “had the moral focus of a rabbi,” wrote Lincoln Caplan '72, J.D. '76, at theamericanscholar.org, and “He loved the Supreme Court as an American institution, but loved the Constitution more.”

* * *

BEGINNING WITH this issue, you may notice some changes in *Harvard Magazine's* layout. To accommodate a new position for President Drew Faust's column—while retaining room for your letters (a vital part of the Harvard conversation), maintaining the readability of editorial contents, and satisfying University and other advertisers' requirements—we have effected a modest reordering of the front pages. During the next year, as we develop a mobile version of the magazine and online contents, we anticipate some further changes. We'll keep you informed.

~JOHN S. ROSENBERG, *Editor*

HARVARD MAGAZINE

EDITOR: John S. Rosenberg
SENIOR EDITOR: Jean Martin
MANAGING EDITOR: Jonathan S. Shaw
DEPUTY EDITOR: Craig Lambert
ASSISTANT EDITOR-ONLINE: Laura Levis
ASSISTANT EDITOR: Nell Porter Brown
ART DIRECTOR: Jennifer Carling

PRODUCTION AND NEW MEDIA
MANAGER: Mark Felton

BERTA GREENWALD LEDECKY
UNDERGRADUATE FELLOWS
Cherone Duggan, Kathryn C. Reed

CONTRIBUTING EDITORS
John T. Bethell, John de Cuevas,
Adam Goodheart, Jim Harrison,
Courtney Humphries, Christopher S.
Johnson, Adam Kirsch, Colleen Lannon,
Christopher Reed, Stu Rosner,
Deborah Smullyan, Mark Steele

HARVARD MAGAZINE INC.
PRESIDENT: Henry Rosovsky, JF '57,
Ph.D. '59, LL.D. '98. DIRECTORS: Suzanne
Blier; Jonathan L.S. Byrnes, D.B.A. '80,
Robert Giles, NF '66, Alex S. Jones, NF
'82, Thomas F. Kelly, Ph.D. '73,
Randolph C. Lindel '66, Lars Peter
Knoth Madsen, Tamara Elliott Rogers '74

BOARD OF INCORPORATORS

This magazine, at first called the *Harvard Bulletin*, was founded in 1898. Its Board of Incorporators was chartered in 1924 and remains active in the magazine's governance. The membership is as follows: Stephen J. Bailey, AMP '94; Jeffrey S. Behrens '89, William I. Bennett '62, M.D. '69; John T. Bethell '54; Peter K. Bol; Fox Butterfield '61, A.M. '64; Sewell Chan '98; Jonathan S. Cohn '91; Philip M. Cronin '53, J.D. '56; John de Cuevas '52; Casimir de Rham '46, J.D. '49; James F. Dwinell III '62; Anne Fadiman '74; Benjamin M. Friedman '66, Ph.D. '71; Robert H. Giles, NF '66; Richard H. Gilman, M.B.A. '83; Owen Gingerich, Ph.D. '62; Adam K. Goodheart '92; Philip C. Haughey '57; Brian R. Hecht '92; Sarah Blaffer Hrdy '68, Ph.D. '75; Ellen Hume '68; Alex S. Jones, NF '82; Bill Kovach, NF '89; Florence Ladd, BI '72; Jennifer 8 Lee '99; Scott Malkin '80, J.D.-M.B.A. '83; Margaret H. Marshall, Ed.M. '69, Ed '77, L '78; Lisa L. Martin, Ph.D. '90; David McClintick '62; Winthrop L. McCormack '67; M. Lee Pelton, Ph.D. '84; John P. Reardon Jr. '60; Christopher Reed; Harriet Ritvo '68, Ph.D. '75; Henry Rosovsky, JF '57, Ph.D. '59, LL.D. '98; Barbara Rudolph '77; Robert N. Shapiro '72, J.D. '78; Theda Skocpol, Ph.D. '75; Peter A. Spiers '76; Scott H. Stossel '91; Sherry Turkle '69, Ph.D. '76; Robert H. Weiss '54; Jan Ziolkowski.

PUBLISHER: Irina Kuksin

DIRECTOR OF CIRCULATION AND
FUNDRAISING: Felecia Carter

DIRECTOR OF ADVERTISING:
Robert D. Fitta

NEW ENGLAND ADVERTISING MANAGER:
Abby Shepard

DESIGNER AND INTEGRATED MARKETING
MANAGER: Jennifer Beaumont

CLASSIFIED ADVERTISING MANAGER:
Gretchen Bostrom

DONOR RELATIONS AND STEWARDSHIP
MANAGER: Allison Kern


GIFT PROCESSOR AND OFFICE MANAGER:
Robert Bonotto


IVY LEAGUE MAGAZINE NETWORK

DIRECTOR, SALES AND MARKETING:
Ross Garnick, www.ivymags.com

EDITORIAL AND BUSINESS OFFICE

7 Ware Street
Cambridge, Mass. 02138-4037
Tel. 617-495-5746; fax: 617-495-0324
Website: www.harvardmagazine.com
E-mail: harvard_magazine@harvard.edu

 @harvardmagazine

 [facebook.com/harvardmagazine](https://www.facebook.com/harvardmagazine)

Harvard Magazine (ISSN 0095-2427) is published bi-monthly by Harvard Magazine Inc., a nonprofit corporation, 7 Ware Street, Cambridge, Mass. 02138-4037, phone 617-495-5746; fax 617-495-0324. The magazine is supported by reader contributions and subscriptions, advertising revenue, and a subvention from Harvard University. Its editorial content is the responsibility of the editors. Periodicals postage paid at Boston, Mass., and additional mailing offices. Postmaster: Send address changes to Circulation Department, Harvard Magazine, 7 Ware Street, Cambridge, Mass. 02138-4037. Subscription rate \$30 a year in U.S. and possessions, \$55 Canada and Mexico, \$75 other foreign. (Allow up to 10 weeks for first delivery.) SUBSCRIPTION ORDERS AND CUSTOMER SERVICE INQUIRIES should be sent to the Circulation Department, *Harvard Magazine*, 7 Ware Street, Cambridge, Mass. 02138-4037, or call 617-495-5746 or 800-648-4499, or e-mail addresschanges@harvard.edu. Single copies \$4.95, plus \$2.50 for postage and handling. MANUSCRIPT SUBMISSIONS are welcome, but we cannot assume responsibility for safekeeping. Include stamped, self-addressed envelope for manuscript return. Persons wishing to reprint any portion of *Harvard Magazine's* contents are required to write in advance for permission. Address inquiries to Irina Kuksin, publisher, at the address given above. Copyright © 2013 Harvard Magazine Inc.



Seeking 31 great leaders...

motivated to tackle big challenges facing
communities around the world

with a successful track record of 20-25 years
of accomplishments in their primary career

recognizing the value of re-engaging with Harvard
to prepare for their next phase of life's work

The Advanced Leadership Initiative is a year of education, reflection, and student mentoring led by a unique collaboration of award-winning Harvard faculty from across professional schools. The program is dedicated to educating and deploying a new force of experienced, innovative leaders who want to address challenging global and national problems. Inquire now for 2014.

Visit the website to be inspired by the possibilities: advancedleadership.harvard.edu
or email the fellowship director: john_kendzior@harvard.edu



HARVARD UNIVERSITY
ADVANCED LEADERSHIP INITIATIVE

Connections and Competition in Asia

WHEN I TRAVELLED to Hong Kong and South Korea over spring break I had the privilege of seeing how much Harvard means to our alumni in other parts of the world. More than 400 alumni gathered for a reception in Hong Kong, full of questions—and quite a lot of existing knowledge about what is going on in Cambridge and Boston. In Seoul, some 300 alumni came to dinner to discuss all things Harvard—and to cheer on the men's basketball team on the eve of their first NCAA game.

In both Hong Kong and Seoul I also had the pleasure of meeting with university leaders to talk about the issues we have in common—and some that we don't. The six provosts, presidents, and vice-chancellors who joined me in Hong Kong are directing a good bit of their attention these days to a significant change in their undergraduate programs. A fourth year of college is being added, along with state support to fund it, to what had been a three-year degree.

My counterparts spoke with enthusiasm about what this means for the curriculum and for enriching student experience. They embraced the opportunity to expose students to a broader range of fields, to provide an education more anchored in the liberal arts. I nodded in agreement as I heard them extol the virtues of the habits of mind, of the broad thought and inquiry, the creativity and adaptability such learning inculcates. But as I nodded I also reflected on the irony of how increasingly difficult it is to defend these values here at home, even as I see them increasingly embraced in vibrant and growing Hong Kong.

In South Korea, my meeting included five university presidents. Here, too, growing investment in higher education was a key theme,

Harvard President Drew Faust shakes hands with Jaewan Bahk, M.P.P. '88, Ph.D. '92, as Jin Park, M.P.A. '85 (next to Faust), looks on during the Harvard Alumni Association dinner in Seoul.



and my colleagues underscored the importance of support for scientific research as a strategy for economic prosperity and international competitiveness. My colleagues asked about sequestration, budget cuts, and reduced support for research in the United States, and we speculated about what this would mean at a time when such investment is strong and steady in thriving societies like Hong Kong and South Korea.

I WAS STRUCK in both meetings that the majority of my counterparts had been educated at American universities and most had spent significant portions of their careers working in universities here—as faculty, researchers and administrators. But now the opportunity seems to them to lie on the other side of the Pacific, where support for research and education is expanding and where the United States sequester seems like a self-inflicted wound—an act that my colleagues could clearly see opening competitive opportunities. We should take note.

Sincerely,

Drew Faust



Cambridge 02138

*Same-sex marriage, cardiac care,
engineering in Allston*

PRISON PROBLEMS

As AN ACLU policy counsel working to reduce incarceration, I was thrilled to see the profile of Bruce Western's work on the deep injustices wrought by mass incarceration ("The Prison Problem," by Elizabeth Gudrais, March-April, page 38). Western is correct that we are living in a "reform moment." For that reform to succeed, the following facts must be part of the discourse:

1. While the article notes that drug addiction is closely connected with prison populations, it fails to note the enormous percentage of prisoners incarcerated for

nonviolent drug crimes: around 25 percent (the total proportion of inmates convicted of nonviolent crimes is a staggering 49 percent). We can more cheaply and more justly treat these people in the community and save billions of dollars in the process.

2. The reason small race and class differences are amplified at each stage of criminal processing is that police selectively enforce criminal laws in specific neighborhoods, which causes people of color to be disproportionately represented, not, as the article suggests, because "minority and low-income groups are so much more



LETTERS

likely to make bad decisions." In fact, blacks and whites use drugs at the same rates, yet black people are 10 times more likely to end up in prison for a drug offense.

3. While the article correctly notes that black children in schools are suspended and otherwise disciplined at rates much

higher than whites, far out of proportion to misconduct, the next paragraph suggests that "underlying social problems" are to blame. In fact, many public schools now criminalize behavior that previously resulted in a trip to the principal's office, and there is vast evidence that students of color are disproportionately diverted into the criminal-justice system for school-discipline problems.

4. The article mentions that New York has successfully reduced its prison population while crime rates have continued to fall. Indeed, since 1999 New York has cut its population by 22 percent, or 15,000

Harvard is...learning in concert



FAS 13-227 PHOTO: JON CHASE/HARVARD UNIVERSITY

**AN UNPARALLELED
STUDENT EXPERIENCE**

Support the
Harvard College Fund



alumni.harvard.edu/give

LEVERETT'S HOWARD AND ANN GEORGI SING
WITH HOUSEMATES

prisoners, an unparalleled feat. The recipe for success was severely cutting back on unnecessary felony arrests. Reducing the number of unneeded criminal charges by addressing social problems such as drug addiction through other mechanisms is an essential component of reform.

Incarceration is a heavy-handed, furiously expensive tool that takes a tremendous toll on communities, particularly communities of color. Alternatives are plentiful, and it is time to put them to use across the board.

CHLOE COCKBURN '01, J.D. '07
New York City

THANK YOU for a comprehensive presentation on intractable problems whose solutions are probably being pursued by all 50 states plus the federal government.

I was somewhat surprised, however, that an academician like Bruce Western would not place greater emphasis on high-school education as a vital approach to preventing imprisonment in the first place and qualifying for jobs for those being released. I have read that as many as 80 percent of those incarcerated have not completed high school, yet Texas provides little in the way of G.E.D. education or

occupational training for a large incarcerated population that has plenty of time to devote to learning and occupational training, although perhaps not the motivation. Some 55 Texas employment categories have insulated themselves with legal restrictions against even employing released felons, and many employers require a high-school equivalency as a minimum for employment. And if you are a sex offender—forget it! The issue of housing is almost as bad, with many apartments refusing to rent to ex-felons, and sponsored halfway houses are proving inadequate to the task.

Planning for release and re-integration into local communities should logically begin as soon as the felon is imprisoned, but personal safety and staff attitudes are not consistent with that need or with constructive goals. Additionally, most of those caught up in the prison system have neither identification cards, unexpired driver's licenses, nor Social Security cards. Two forms of federally mandated identification are required by all employers—again something that could be accomplished while a person is incarcerated.

The circle continues when we look for help to a public-school system that is largely broken and especially fails tradi-

tional minorities and lower-income residents.

Success can only occur when comprehensive solutions are developed that include the cooperation and participation of students, parents, teachers, mentors, and other volunteer agencies. Perhaps some communities have developed models that show results and author Gudrais would do well to seek them out and shine her light on their success.

JAN FERSING, M.B.A. '64
Fort Worth

THERE IS little question that the United States has a serious prison problem. But why lead with the story of someone who "served 25 years for [an] armed robbery and aggravated rape [that he presumably committed]." I wish Jerry the best, but he would seem to be an example of the type of person who should have been in prison for an extended period of time. If we are serious about reducing our prison population, why not start by not imprisoning those who commit victimless crimes or those who lack mens rea. We might also look for ways to rein in prosecutors who routinely bludgeon individuals into pleading guilty for crimes that they may not have committed by giving them the option of accepting a short sentence or going to trial and risking a very long one.

HOWARD LANDIS, M.B.A. '78
New Canaan, Conn.



Explore More

Visit harvardmagazine.com/extras to find these and other Web Extras from the May-June 2013 issue.

Tiny and Trendy
page 11 | With demand increasing for urban studio apartments nationwide, micro-units are growing in popularity. Learn more about these scaled-down digs in cities like San Francisco and Boston.



Telescopes, Animated
page 32 | View an animation demonstrating how the planned 80-foot Giant Magellan Telescope will look and operate once it's built atop a mountain in the Andean range.



Indelible Lalita
page 19 | Watch a scene from filmmaker Julie Mallozzi's moving documentary about one woman's spiritual and medical journey.



Raising the Bar
page 55 | Watch a video of NCAA pole vaulter Nico Weiler discussing the skills needed to excel in his sport—and demonstrating his technique.



VISIT HARVARDMAGAZINE.COM/EXTRAS

FROM TOP: ©PANORAMIC INTERESTS, 2011; TODD MASON/GINTO CORPORATION; JULIE MALLOZZI; JIM HARRISON

BRUCE WESTERN'S writing on mass incarceration is rich in data and compelling in argument. I agree with Western that the United States may now finally be at "a reform moment," when steps will be taken to lower the human, social, and financial costs of keeping 2.2 million men and women behind bars.

In addition, it is vital that those of us who study crime and incarceration try to understand people who are or were imprisoned as full and complex individuals, and not just as a "rap sheet." Doing so represents a new and very welcome development. Western's insights on the relationship between those we view as "criminals" and "victims" are spot on.

Still, I suspect there is much more work to do to understand this population and the phenomenon of mass incarceration. I have begun to learn about the experience of imprisonment and reentry through

I Choose Harvard...



Seung Bin Yuh and Choon Hee Lee P'13

Watching Richard Yuh '13 thrive in college has not only delighted his parents but inspired them to generously support innovative teaching and learning at Harvard. Seung Bin Yuh and Choon Hee Lee, who run a commercial and residential real estate development company in Seoul, South Korea, have been recognized as Harvard Yard Society Dean's Fellows for their significant unrestricted, immediate-use gifts to the Harvard College Parents Fund. "Harvard will accompany Richard for the rest of his life as his alma mater," the Yuhs note, "and so it is essential that we support such a precious compan-

ion." Flexible gifts like those from the Yuh family allow Faculty of Arts and Sciences Dean Michael D. Smith to invest in emerging ideas and initiatives, such as interactive technology for the classroom. "As a business family, we understand the importance of planning and working within a budget," the couple explains. "However, to develop and grow the business further, it is equally important to have resources available to research new concepts and try out novel ideas. We wanted to give Harvard the ability to use the funds in areas the University deems most important."

To read more, please visit www.alumni.harvard.edu/yuh

"Harvard's greatest strength lies in the people who make up this exceptional community."

CHOON HEE LEE P'13



Ingrid Ehrenberg '82, MBA '87 and Joseph Chan

Harvard opened doors to a wider world for Ingrid Ehrenberg '82, MBA '87. She studied modern Chinese history, tutored prisoners through a public service project, relished time with her international roommates in Adams House, and then spent two decades in Asia. Now in New York, Ehrenberg and her husband, Joseph Chan, have expressed their gratitude to Harvard with generous unrestricted giving to mark Ehrenberg's 30th reunion last year. The couple, who met

working in commodities in Hong Kong, were recognized as Harvard Yard Society Fellows for providing flexible, immediate-use funds that allow the Faculty of Arts and Sciences to pursue emerging opportunities. "We believe in the power of education to change lives," says Chan. "Harvard has had a profound influence on me," adds Ehrenberg, "and that's why Joe and I have chosen to give back in what we hope is a meaningful way."

To read more, please visit www.alumni.harvard.edu/stories/ehrenberg.



AN UNPARALLELED STUDENT EXPERIENCE

Support the



Harvard College Fund

alumni.harvard.edu/give

LEFT: AN UNDERGRADUATE SEMINAR ON *THE CONTEMPORARY NOVEL AND THE ART OF THE BOOK REVIEW*

more than five years of teaching and advising men and women in five New York State prisons, where Bard College operates full degree-granting (A.A. and B.A.) programs, as well as in the shelters and halfway houses where many first land upon release. Beyond the purely academic program, Bard works with its incarcerated students in preparation for reentry while they are still in prison and continues to do so long thereafter. This has helped many men and women reunite with their families, continue their educations at the graduate level, and begin well-paid, professional careers, in the process becoming taxpayers. As Western and his research team continue their investigations, I hope they will spend even more time with people who know the most about incarceration—the more than 7,000,000 people currently serving time inside jails and prisons or outside on parole or probation.

ELLEN CONDLIFFE LAGEMANN

*Levy Institute Research Professor, Bard College,
and Distinguished Fellow, Bard Prison Initiative
Former dean, Harvard Graduate
School of Education
Annandale-on-Hudson, N.Y.*

SAME-SEX MARRIAGE

IN THE excellent article by Michael J. Klarman (“How Same-Sex Marriage Came to Be,” March–April, page 30), he says that last November Minnesotans rejected a proposed constitutional amendment to bar gay marriage—becoming only the second state in which voters had done so. We in Minnesota have been bragging that we were the first state to do this—who beat us?

Also, he refers to Justice Anthony Kennedy without adding the customary J.D. ’61 to his name.

JAMES H. MANAHAN ’58, J.D. ’61
Plymouth, Minn.

Michael Klarman responds: In 2006, Arizona voters became the first to reject a

proposed constitutional amendment to ban gay marriage, but they apparently did so only because the amendment’s language was broad enough to be interpreted as forbidding domestic partnership benefits for gay and straight couples. Such benefits were already available to many elderly cohabiting heterosexual couples under a Tucson law and to many private and public employees under corporate and state and local government healthcare plans. At least some voters did not want those benefits taken away. In 2008, Arizona voters passed a stripped-down measure that barred only gay marriage.

I HAVE READ Michael Klarman’s lengthy and triumphalistic article about same-sex marriage without finding a word about children (a major purpose of marriage) or any indication that their welfare is involved. Strong evidence indicates that they stand to be harmed.

SCOTT FITZGIBBON, J.D. ’70
Belmont, Mass.

THOUGH I enjoyed the article, I was disappointed to see that you’d missed the start of the gay rights movement by at least a decade. In 1957, Frank Kameny, Ph.D. ’56, was fired from the federal government and by 1965 he had fought his case all the way to the Supreme Court (it was declined), founded the Mattachine Society, and was picketing the White House for gay rights. Frank was not alone in that fight, but as an early voice and a lifelong advocate, his pre-Stonewall contributions surely merit mention.

JOHN LA RUE ’07
Washington, D.C.

IN HIS 2010 book, *From the Closet to the Courtroom*, Rutgers law professor and same-sex marriage advocate Carlos Ball explained the rationale behind same-sex marriage litigation as follows: “Through the process of formally demanding admission into the institution of marriage, LGBT individuals would show the American public that they were capable of entering and remaining in committed relationships—and, for those who had them, of raising children—in ways that did not differ fundamentally from the experience of heterosexuals.” Now that this movement has achieved its goal with over 50 percent (and counting) of the public agreeing, can it give back the country’s traditions since it no longer needs them? I’m talking

not only about marriage, but logic, common sense, and, oh, yes, democracy.

GEORGE GOVERMAN ’65, J.D. ’70
Cambridge

CARDIAC CARE

AN ASPECT of the bias in favor of invasive procedures that escaped comment in Alice Park’s “A Cardiac Conundrum” (March–April, page 25) is the dependence of medical schools on clinical income. According to the Association of American Medical Colleges, 53 percent of the total revenue for U.S. medical schools in 2011 was generated by clinical activities; less than 4 percent came from tuition. Medical schools benefit from increases in the number of profitable procedures performed at their affiliated teaching hospitals, where faculty are often compensated in proportion to the clinical revenue they generate. Considerations of this nature can be expected to affect not only the practice of current faculty, who are incentivized to promote these procedures, but also the education of medical students—who will be ordering and performing these procedures in the future—regarding the appropriate indications for their use.

MATTHEW MOVSESIAN, M.D. ’78
*Professor, Internal Medicine (Cardiology)
and Pharmacology
University of Utah School of Medicine
Salt Lake City*

ACADEMIC MISCONDUCT...

THE HAND-WRINGING, the calls for betterment, the tortuous admonitions of Dean Michael Smith are just plain disingenuous (“We All Can Do Better,” March–April, page 48). Does Harvard really think this is the first time its mass of carefully screened, over-achieving high-school standouts has cheated? The flaw, I submit, is in the University’s own situational ethics demeanor. Is there any admission criterion that speaks to the honesty, integrity, or any other moral value component of an applicant’s character?

Do you even know if any student has ever attended church? The leading institution of a society where the president of the United States can have, then openly lie about, an illicit sexual dalliance, where the Secretary of the Treasury can be a known tax cheat, and where traditional moral values are considered quaint and non-progressive cannot pretend to be surprised when it reaps that which it has sown.

Frankly, I’m (please turn to page 67)

SPEAK UP, PLEASE

Harvard Magazine welcomes letters on its contents. Please write to “Letters,” *Harvard Magazine*, 7 Ware Street, Cambridge 02138, send comments by e-mail to yourturn@harvard.edu, use our website, www.harvardmagazine.com, or fax us at 617-495-0324. Letters may be edited to fit the available space.

Right Now

The expanding Harvard universe

HUMAN GENES ON A MOUSE

On the Trail of Human Diversity

AS THE FIRST modern humans made their way out of Africa, about 100,000 years ago, they experienced a range of regionally specific selective evolutionary pressures (related to climate, diet, and disease risks) that slowly shaped the differences seen among human populations today. Until now, efforts to link these adaptive traits to specific genes have been limited to a handful of mutations with a single, easily measured effect, such as skin pigmentation or lactose tolerance. Yet scientists know that most genes are *pleiotropic*—they influence multiple characteristics. A recent study published in *Cell* has isolated the effects of just such a complex human gene by using, for the first time, a mouse model. The experiment has demonstrated the potential for using mice to discover and analyze the evolution of adaptive traits responsible for human variation.

The researchers—an interdisciplinary group from the Faculty of Arts and Sci-

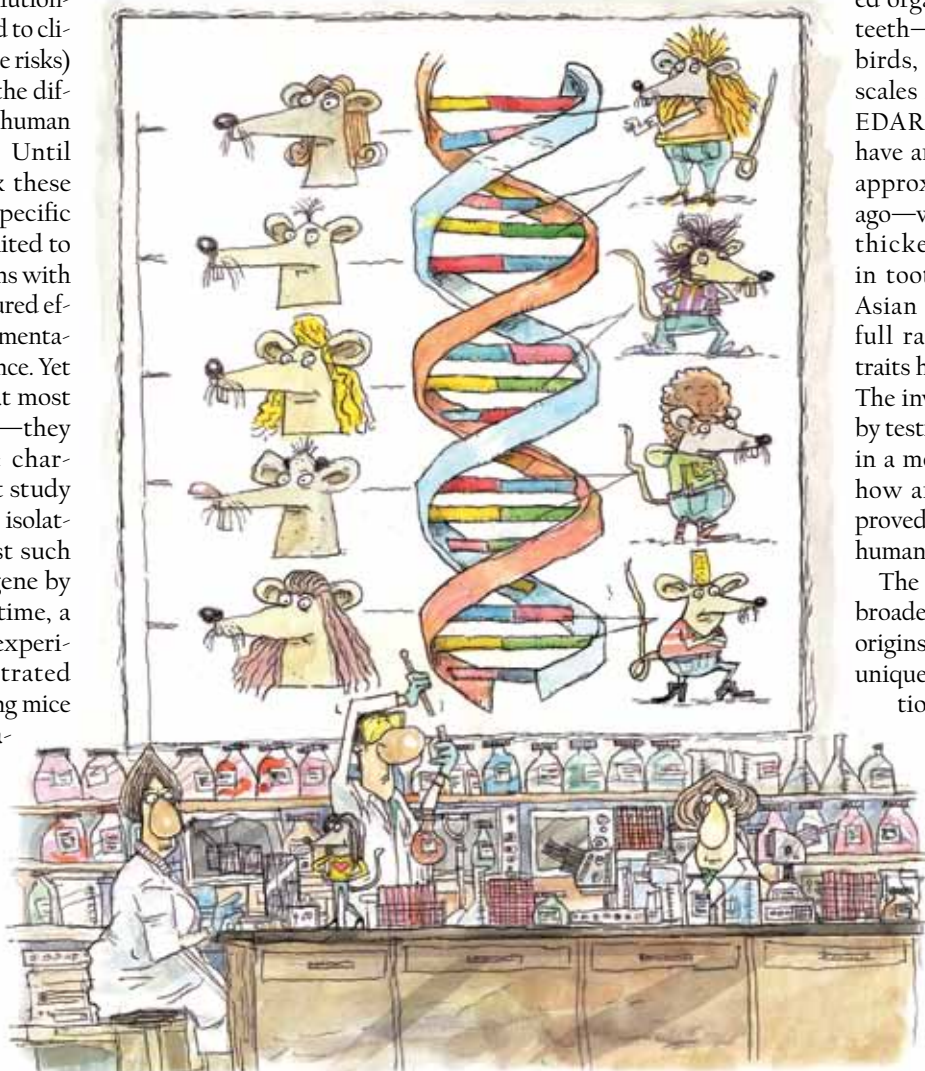
ences (FAS), Harvard Medical School (HMS), The Broad Institute (of MIT and Harvard), Massachusetts General Hospital (MGH), and colleagues in China and

the United Kingdom—focused on an East Asian variant of the ectodysplasin receptor gene, *EDAR*. That gene is involved in the development of a wide range of skin-related organs—hair, glands, and

teeth—as well as feathers in birds, fur in mammals, and scales in fish. The mutation, *EDAR370A*—estimated to have arisen in central China approximately 30,000 years ago—was known to produce thicker hair and changes in tooth shape among East Asian populations, but the full range of its associated traits had yet to be identified. The investigators hoped that by testing the variant's effects in a mouse they might learn how and why the mutation proved advantageous to early humans settling in China.

The study evolved out of a broader discussion about the origins of human skin and its unique role in thermoregulation. Professor of human

evolutionary biology Daniel Lieberman and Leder professor of genetics Clifford Tabin, chair of the HMS department of genetics, shared an interest in how the evolution of hu-



man sweat glands and of hair (in place of heat-trapping fur) had given humans an endurance advantage over faster, stronger mammals. “We hoped to come up with a way to understand at a gene level how that transition from apes to humans might have occurred, to allow us to become man, the jogger,” Tabin recalls. To that end, they recruited professor of dermatology Bruce Morgan and computational geneticist Pardis Sabeti, associate professor of organismic and evolutionary biology and a senior associate of the Broad Institute.

Sabeti’s lab at the Broad had previously identified the East Asian EDAR variant as a gene under recent positive selection, making it a good starting point for the collaborative investigation. She had developed a technique, called the “composite of multiple signals,” that enables researchers to tease out the precise gene on a given area of the genome that has *causal significance* for selection, unlike nearby genes that are “just along for the ride.” Once the EDAR variant was isolated, she and her colleagues were able to determine the mutation’s age and place of origin by looking at the distribu-

tion and genomic context in which it occurs in present-day populations, and then applying computer regressions.

To test the evolutionary significance of the EDAR mutation, the team decided to replace a mouse’s normal EDAR gene with EDAR370A and brought in lead author

The mouse model displayed thicker hair follicles, increased sweat glands, and smaller mammary fat pads.

Yana Kamberov, an HMS research fellow in genetics, to conduct the experiment. “Mice make it easier to do a complete analysis,” she says, “because you can eliminate all other variation in the genome, isolating the mutation’s effects.” Still, no one knew whether the changes would actually be detectable in a mouse. “People assumed that human variation is so subtle that the differences between *humans* would be swamped by the difference between humans and mice,” Tabin says.

In fact, the mouse model displayed not

just thicker hair follicles, but also a number of previously unknown characteristics, including increased sweat glands and smaller mammary fat pads. Participating researchers in China have so far verified the hair and sweat-gland traits in a cohort of Han Chinese carriers of the gene.

(Changes in human teeth have no direct corollary in mice.)

The results have generated new hypotheses about the EDAR variant’s adaptive value for the earliest East Asians. “It’s unlikely there was a single selective pressure,” Tabin points out. More likely, he says, different aspects of the mutation were important at different times. Increased sweat glands may have benefited those humans adapting to a series of climatic shifts that took place in central China; smaller mammary fat pads could have



[e-mail]

**Curated content
delivered to your doorstep.**

- Editor’s Highlights • This Week
- Harvard Headlines • Football
- Arts • Science • Classifieds

SIGN UP
harvardmag.com/email



provided an energy-saving advantage. But positive selection for this mutation clearly persisted, even as people migrated to colder, drier places.

So how and why was the selection maintained? Bruce Morgan suggests that there may have been a developing cultural preference for *visible* traits such as thick hair and smaller breasts that reinforced the biologi-

cal advantage of sweating. "In one sense," he says, "this gene is simple" (because everything it does is related to the skin), "but in another sense it's complicated" (because it affects *so many* skin-related traits).

The cross-disciplinary team will continue their collaboration, trying to answer some of the many questions their study has unearthed. "We are still a long way

from answering our initial question: why did humans lose fur and develop sweat glands?" Lieberman says. "But we've discovered some exciting links...and we're not giving up." ~ASHLEY PETTUS

YANA KAMBEROV E-MAIL ADDRESS:

yana_kamberov@student.hms.harvard.edu

MICRO AND MODULAR

Living Large in Tiny Apartments

IN THE 1960s, Volkswagen became famous for ads featuring tiny pictures of their cars with the slogan, "Think small."

Now architects Eric Bunge, M.Arch. '96, Mimi Hoang, M.Arch. '98, and Alphonse Lembo, M.U.P. '10, have put their own spin on that memorable line: instead of cars, they're shrinking apartments.

In January, the trio won the adAPT NYC Competition, devised by New York City

mayor Michael Bloomberg, M.B.A. '66, to spur designs for attractive and affordable apartments from 250 to 370 square feet in size. Called "My Micro NY" (MMNY), their proposed housing project features 55 studio apartments, each smaller than a typical two-car garage. Now slated to become one of the first modular-unit projects in Manhattan, the apartments will be prefabricated in the Brooklyn Navy Yard

and shipped overnight to a site on East 27th Street, where they will be stacked atop each other like Lego® bricks. The concept is "countercultural compared to the 'American Dream,' but it's spacious compared to the reality people face in the world's most overcrowded cities," says Bunge. He and his wife, Hoang, own the architecture firm nArchitects; Lembo is project manager at Monadnock Construc-



McLean Pavilion

Premier Psychiatric Treatment

Finally.
A correct diagnosis—
and hope.

Real recovery starts with the right diagnosis. The Pavilion offers a research-backed program with a proven history of helping people uncover the primary reasons why they struggle to break free from their cycle of treatment failures.



Boston, Mass. www.mcleanhospital.org/pavivy 617.855.2874

U.S. News & World Report ranked McLean Hospital first among all freestanding psychiatric hospitals. McLean Hospital is the largest psychiatric affiliate of Harvard Medical School and a member of Partners HealthCare.





MIRNO



LEDAEAN.COM



MIRNO

Compact apartments are proliferating in the United States. Here, artists' renderings show how the MMNY micro-units, prefabricated in the Brooklyn Navy Yard and shipped to the East 27th Street building site, will be stacked atop each other like Lego® bricks. A typical unit, 250 square feet to 370 square feet in size, will have ceilings about 10 feet high, a living area, a bathroom with a full shower, 16 square feet of overhead storage, a Juliet balcony, and a kitchenette. The building will feature a performance space on the ground floor.

tion, which partnered with nArchitects for this venture.

The Graduate School of Design (GSD) alumni hope MMNY, slated to open in 2015, will revolutionize apartment living in major cities. Though each unit is extremely small, the structure overall is designed with open space in mind, offering amenities such as nearly 10-foot ceilings, a gym, bike storage, a large common room on the ground floor and a "salon" with a roof terrace, plus a sitting room on each floor for community interaction.

The adAPT contest sought to highlight the lack of affordable studio apartments in New York City. Bunge estimates that the metropolis could use another 800,000 units to meet demand, adding that many single residents live in apartments that may be illegally or poorly subdivided. He says about 40 percent of the MMNY units will be affordable housing, with the lowest-income tenants (20 percent) paying about \$943 a month, and an additional 20 percent paying about \$1,700 to \$1,800 a month.

Although MMNY was originally geared toward younger occupants, Bunge reports a shift among those interested in living in such units. In New York City today, he says, people of many different ages want to live alone—yet they like the community aspect of nArchitects' project. One of the most attractive amenities is the flexible "creative space" on the ground floor that will be used to host community performing-arts events and tenant programs. "The quality of living in the city is that the city is your living room," says Eric Höweler, an assistant professor of architecture at the GSD who studies urban planning and design. "People who live in apartments tend to live there in blissful anonymity. [These MMNY units] are not dorms with an institutional framework attached, to make everyone relate to each other on some level like, 'We all go to Harvard.' In these types of spaces, the community aspect happens in the mailroom, the laundromat, or the bar."

While brainstorming their adAPT entry, Bunge and his partners asked themselves: How do you make such a small space humane? What factors would transform a very small footprint into something quite livable and affordable? Ultimately, he says, they wanted to “make a big impact with small moves,” by adding amenities such as 16 feet of overhead storage.

“Living in a very small apartment, you have to live beyond your four walls,” he explains. “We view the unit as an efficient space that allows some creativity but also gives you the amenities you need. At the same time, we thought about all of the different scales: you live on your floor, you live in your building, you live on your block, you live in your community, and so on. The project’s form has evolved out of that thinking.”



Visit www.harvard-magazine.com/extras to learn more about the micro-unit trend in other U.S. cities.

—LAURA LEVIS

NARCHITECTS WEBSITE:
www.narchitects.com

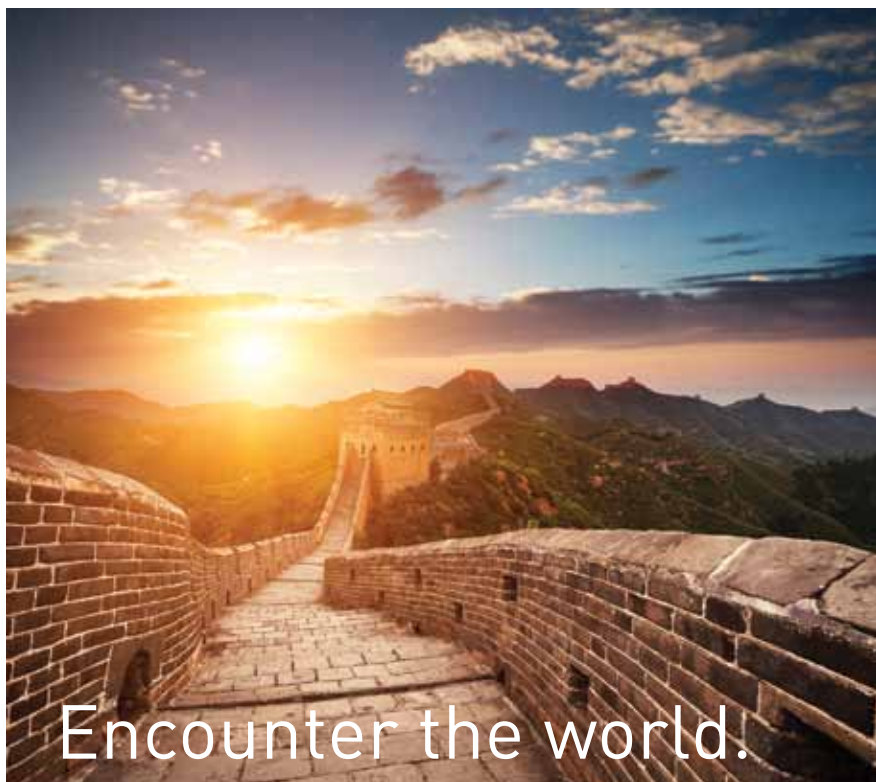
AN INFLAMMATORY FINDING

Mice Aren't Men

PEOPLE like to think experiments using the scientific method proceed according to airtight logic—that all underlying assumptions have been tested and proven true. But sometimes, as science advances, it threatens to disprove its own tenets, and call into question whole categories of experiments.

A recent paper coauthored by associate professor of pediatrics H. Shaw Warren does just that. In a study that involved collaboration among more than a dozen institutions, Warren, an expert in sepsis (see below), asked whether the bodies of mice react to burns, blunt trauma, and infection the same way that human bodies do. Examining the genetic signatures of response to such assaults, the scientists found very little similarity between the two species.

The finding is stunning because mice



The Harvard Museum of Natural History Travel Program invites you to experience...

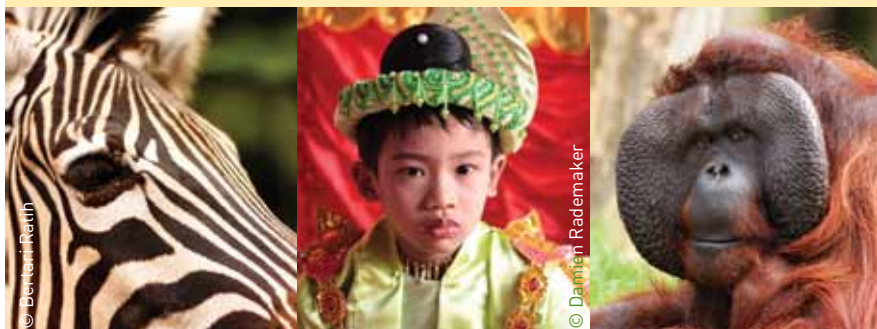
- Creatively-designed journeys
- Small groups of 8 to 20 travelers from Harvard & beyond
- The expertise of renowned scholars
- Over 40 trips annually to all continents



Discover why we have earned a reputation for offering innovative adventures and expedition travel to trend-setting destinations—with an educational twist. Call us at (617) 495-2463.

Coming up: Across Cuba: A Natural and Cultural Journey from East to West • Polar Bear Quest: Iceland to Norway • The Archaeological Treasures of Peru • Burma's Remote Frontiers

www.hmnh.harvard.edu/travel • hmnhtravel@hmnh.harvard.edu



Ralph Lauren Apparel



Visit us on line at thecoop.com and shop our Ralph Collection. Paid-up Member Pricing applies.

Enamel Cufflinks



"Veritas" Harvard University Enamel Cufflinks with crest and chain back. Choose Harvard College or Harvard Business School. Made in England. Purchase Reg. \$75/Member Price \$67⁵⁰

Veritas Polar Fleece



Harvard Veritas Maroon Polar Fleece Blanket 50" x 60". Also available with Harvard Business School design. Purchase Reg. \$40/Member Price \$36



For ordering and shipping information call: 1-800-368-1882, fax: 1-800-242-1882, or shop our online catalog: www.thecoop.com

RIGHT NOW



© GEORGE D. LEPP/CORBIS IMAGES

have long been considered a model organism for researching drugs for use in people. The study authors estimate that 150 potential treatments for severe inflammation have been tested in people after being found to work in mice—and in the human trials, not a single one worked.

In fact, the researchers found only a very weak correlation between mouse and human genes activated in the body's response to a burn injury. For response to blunt trauma, the correlation was weaker still; for response to bacterial toxin that mimics infection, nearly nonexistent. In some cases, the researchers found that the same genes were activated in humans and mice, but in opposite directions—meaning that a drug that worked well in a mouse might actually *harm* a human patient. This helps to explain why it's been so difficult to find drugs that effectively treat inflammation.

These findings apply only to the inflammatory response, but they do raise the question: What *other* human diseases are being studied under the erroneous assumption that mice are a valid model? Almost universally, researchers are expected to prove a drug works in mice before testing it in humans. Now, another step—studying mouse-human differences with regard to the specific disease—may be necessary.

Even before both mouse and human genomes had been fully mapped to enable such comparisons, says Warren, "everybody already knew" there were major differences in the way humans and mice responded to infection. For example, small numbers of certain bacteria in the

Humans lack a mouse's high tolerance for bacteria in the bloodstream, a clue that the two species have evolved very different responses to inflammatory disease.

bloodstream can make humans very ill. If the body mounts a severe inflammatory response—"a genomic storm affecting all major cellular functions and pathways," the authors write—blood pressure drops and organ failure sets in. Sepsis, as this reaction is called, is the most common cause of death in intensive-care units in the United States, killing about 200,000 Americans each year.

But mice have a *high* tolerance for bacteria in the bloodstream. To provoke an immune response, researchers typically must inject the lab animals with 100,000 times the number of bacteria it takes to make a (much larger) human sick. Probably because of their living conditions in the wild, says Warren, "mice have evolved to live in better harmony with most bacteria that come into their systems—they've developed a coping mechanism."

If even a casual observer could see that mice don't respond to infection the same way humans do, why did so many experiments assume otherwise? Warren says that once the mouse became "a cornerstone of modern biomedical research"—readily and relatively cheaply available, easily custom-bred, with well-developed methods of study that are acceptable to the bodies that approve and fund experiments—the system perpetuated itself.

If the new findings suggest that a great

deal of research funding has been inadvertently misspent over the years, they also contain two pieces of positive news. First, the researchers found that burns, trauma, and infection triggered reactions with three very different genetic signatures in mice, but in humans, the reactions to all three were quite similar—meaning a drug that ameliorates the human response to infection would probably also work for trauma and burns. Second, by clearly establishing that mice and humans are different in this respect, researchers can start asking *why*, and probe how the coping mechanisms that evolved in mice might be translated for use in humans. (Warren notes that even though extrapolation from results in mice to complex human diseases is problematic, mice have been valuable in scientific research for studying specific genes and biochemical pathways and mechanisms.)

The findings are controversial because they pose a challenge to the scientific status quo.

The findings (which emerged from a decade-long project, led by Redstone professor of surgery Ronald G. Tompkins, to study inflammation generally) are generating controversy because of the challenge they present to the scientific status quo: the paper was actually declined by *Science* and *Nature* before being published in the *Proceedings of the National Academy of Sciences*. Warren doesn't expect widespread practices to change overnight, but he hopes the study will open a new avenue of discussion for the relevant parties—scientists, journal editors, funding agencies, drug companies, and regulators. In fact, he is organizing an exploratory seminar, through the Radcliffe Institute for Advanced Study, that will assemble an interdisciplinary group of scholars to consider the problem. "If this starts a worldwide debate on how we should be using animal models," he says, "I think we've gained something."

—ELIZABETH GUDRAIS

H. SHAW WARREN E-MAIL ADDRESS:
warren@helix.mgh.harvard.edu

Established 1883

LEAVITT & PEIRCE

1316 Massachusetts Avenue
Cambridge, MA 02138
617-547-0576



JOHN HARVARD BOOKEND

Antiqued brass over zinc. 7" h x 4" w x 6" d.
Over 5 pounds each. \$175 (plus S&H).
U.S.A. – made exclusively for Leavitt & Peirce. Price is per bookend.



FRESHMAN SMOKER

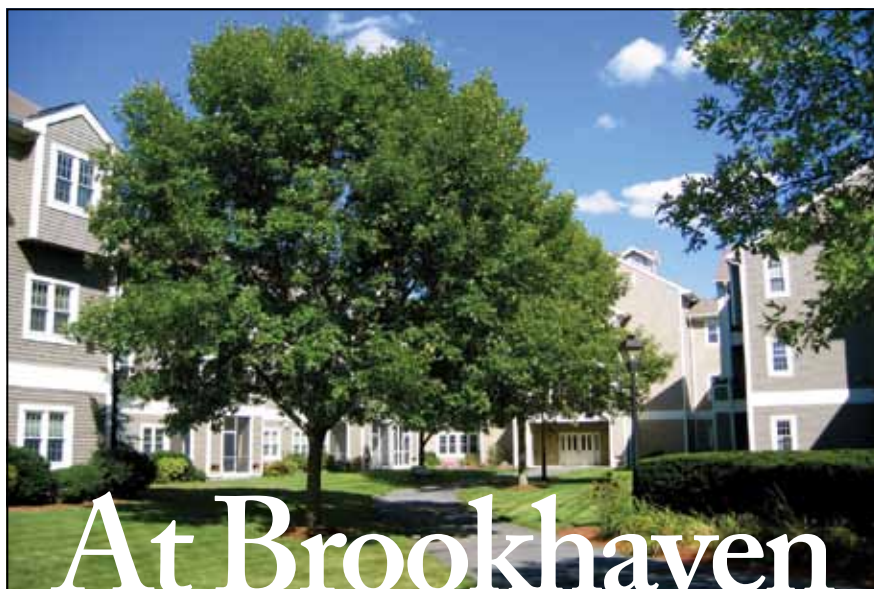
Reprint of lithographer Close, Graham & Scully's 1911 depiction of Harvard "club life" and its "price to pay". Reprinted on heavy matte stock. 34 1/16" x 19 1/16". \$39.95 (plus S&H). Shipped tubed.

We're now online at
www.leavitt-peirce.com
online shop, store history and more



HARVARD TERCENTENARY MAP

Harvard recaptured in this famous Tercentenary map by Edwin J. Schruers '28. Painstakingly reproduced on quality "antique" stock 33 5/8" x 24 1/4". \$39.95 (plus S&H). Shipped tubed.



At Brookhaven

lifecare living is as good as it looks.

Brookhaven at Lexington offers an abundance of opportunities for intellectual growth, artistic expression and personal wellness. Our residents share your commitment to live a vibrant lifestyle in a lovely community.

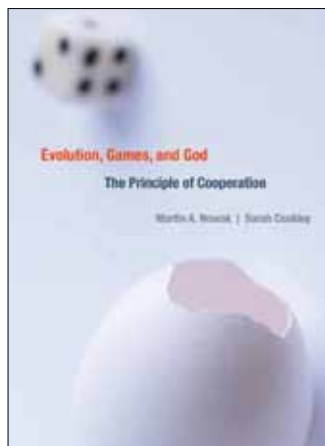
Call today to set up an appointment for a tour!



A Full-Service Lifecare Retirement Community
BROOKHAVEN
AT LEXINGTON

www.brookhavenatlexington.org
(781) 863-9660 • (800) 283-1114





Evolution, Games, and God

The Principle of Cooperation

EDITED BY
Martin A. Nowak AND
Sarah Coakley

"Martin Nowak is undeniably a great artist, working in the medium of mathematical biology."

—Sean Nee, *Nature*
New in cloth / \$35.00



Adrenaline

Brian B. Hoffman, M.D.

"Brian Hoffman's 'biography of adrenaline' is medical history at its best, revealing the blend of genius, guts, and luck that transformed a hunch into a breakthrough... This thoughtful and exuberant exploration will satisfy both professional and lay readers."

—*Publishers Weekly*
(starred review)

New in cloth / \$24.95

AVAILABLE IN JUNE

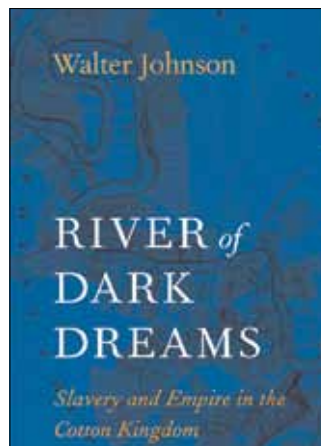
The Ancient Greek Hero in 24 Hours

Gregory Nagy

It is only through analyzing their historical contexts, Gregory Nagy argues, that we can truly understand Achilles, Odysseus, Oedipus, and Herakles.

Based on a Harvard course that is now being offered by edX, the nonprofit Harvard-MIT partnership for online education.

New in cloth / \$35.00



River of Dark Dreams

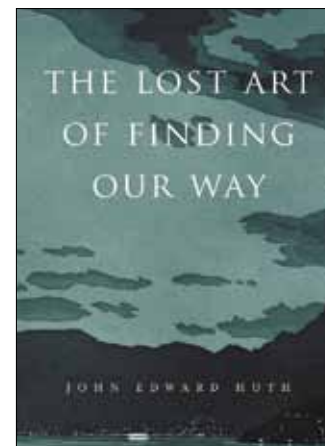
Slavery and Empire in the Cotton Kingdom

Walter Johnson

"An important, arguably seminal, book... Always trenchant and learned. In highly compelling fashion, it helps us more fully appreciate how thoroughly the slaveholding South was part of the capitalist transatlantic world of the first half of the nineteenth century."

—Mark M. Smith,
Wall Street Journal

Belknap Press / new in cloth / \$35.00

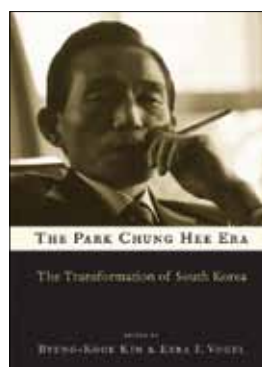
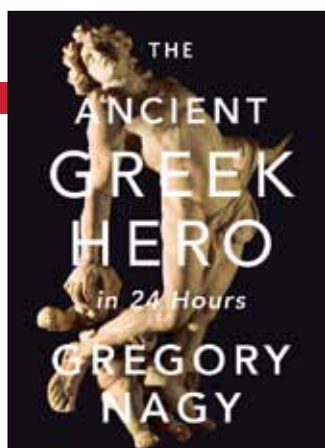


The Lost Art of Finding Our Way

John Edward Huth

Lavishly illustrated with nearly 200 specially prepared drawings, John Edward Huth's compelling account of the cultures of navigation will engross readers in a narrative that is part scientific treatise, part personal travelogue, and part vivid re-creation of navigational history. Seeing through the eyes of past voyagers, we bring our own world into sharper view.

Belknap Press / new in cloth / \$35.00



NEW IN PAPERBACK

The Park Chung Hee Era

The Transformation of South Korea

EDITED BY
Byung-Kook Kim AND
Ezra F. Vogel

New in paper / \$24.95

join our mailing list: www.hup.harvard.edu

Montage

Art, books, diverse creations



- 18 Open Book
- 19 Soul Beyond the Skin
- 20 Off the Shelf
- 22 A Scientist in Full
- 24 Chapter and Verse

come fairy-tale heroes and villains. When, to her horror, Sophie arrives at the Evil branch to learn “uglification,” death curses, and other dark arts, while Agatha finds herself at the School for Good amid hand-

The writer at work: Soman Chainani in his Brooklyn apartment

some princes and fair maidens, the line between good and evil blurs, the meaning of beauty twists, and the girls reveal their true natures.

At the core of their journey is the “princess culture,” which Chainani defines as today’s “tyranny of pink in young-girl marketing. It tells them their responsibility is to be pink, sparkly, ultra-feminine, and—most of all—pretty.” With such an emphasis on looks, “girly girls are terrified of being ugly, and normal girls are afraid of being outcasts.”

Even boys are unnerved. “They have no idea how to live up to the expectations,” he says. “That’s what I am interested in capturing: what kids fear most today.”

Sophie and Agatha inhabit a world like that of classic fairy tales: a place where magic and reality coexist, and dangers lurk. Yet those dangers reflect modern issues. Several episodes tackle the fear of ag-

Princess Not-So-Charming

A fairy tale for today’s world

by SUSAN HODARA

“FAIRY TALES have always tapped into the subconscious, bringing to light children’s deepest fears,” says Soman Chainani ’01. In his new fantasy-adventure novel, *The School for Good and Evil*, he has brought that tenet into the twenty-first century.

The first of a trilogy for middle-grade readers (ages nine and up), *The School for*

Good and Evil tracks two archetypal heroines: the lovely Sophie, with her waist-long blond hair and her dreams of becoming a princess, and her friend Agatha, an unattractive, unpopular contrarian who chooses to wear black. A giant bird snatches the pair and carries them off to the School for Good and Evil, a two-pronged magical academy that trains children to be-

O P E N B O O K

Like Garlic or Burning Matches

nese cities. Robert M. Neer Jr. '86, an attorney and lecturer at Columbia, has written *Napalm: An American Biography* (Harvard University Press, \$29.95). "Napalm was born a hero but lives a pariah," he writes. This excerpt, from the introduction to the first section, narrates the gel's origin.

America's first Independence Day of World War II was idyllic at Harvard University. On campus tennis courts nestled between the college soccer field's verdant green and the golden dome of the Business School library, players in whites gathered for morning games. They volleyed as university maintenance workers armed with shovels arrived, cut into the field, and built a circular parapet a foot tall and 60 yards in diameter. Fire trucks from the City of Cambridge rumbled up, and men flooded the circle to make a wide pool four to nine inches deep. By mid morning, all was ready for the arrival of Sheldon Emery professor of organic chemistry Louis Fieser, one of the university's most brilliant scholars and head of "Anonymous Research Project No. 4," a top secret war research collaboration between the school and the government.

Fieser arrived. He was 43 years old, tall, bald, with traces of the Williams College varsity football lineman he once was still present in his bearing. An octet of assistants followed. He equipped four of the young men with boots, buckets, long sticks, and gloves, and positioned them around the pool. With assistance from the others, he gingerly lugged a live 70-pound napalm bomb, bolted nose down on a metal stand, to the center of

the lagoon. A wire ran to a control box on dry ground. Firemen and groundskeepers looked on. Players 50 feet away traded forehands.

Fieser flipped a switch. High explosives blasted incendiary white phosphorus into 45 pounds of jellied gasoline. A spectacular, billowing 2,100-degree-Fahrenheit fire cloud rose over the field. Lumps of searing, flaming napalm splashed into the water. Oily smoke filled the air. Assistants plunged into the muck, splashed water on burning blobs, and used their sticks to submerge and extinguish larger gobbets. They noted the location and size of chunks, and scooped salvageable jelly into buckets for weighing. Tennis players scattered....

Professor Fieser's firestorm was over in seconds. Hunks of gel hissed, flickered, and died. A pungent aroma of phosphorus, like garlic or burning matches, mixed with the oily smell of gasoline, hung in the air over the flooded field and empty tennis courts. Napalm bombs had arrived in the world.

Napalm, indelibly associated in modern memory with the horrors of civilians bombed during the Vietnam War, emerged from a Harvard laboratory as a lauded invention in an earlier conflict—and then was used to incinerate Japanese cities.

ing; one chapter riffs on the current obsession with physical self-improvement. In a scene where Sophie is asked to contribute to the school, she becomes a campus celebrity by offering "Malevolent Makeovers" and a presentation titled "Just Say No to Drab." When Agatha challenges her, Sophie replies, "Isn't this compassion? Isn't this kindness and wisdom? I'm helping those who can't help themselves!"

"So much is based on image," Chainani explains. "It's such a pervasive, destructive thing."

The fairy tales have roots in Chainani's childhood in Key Biscayne, where he grew up in one of the island's only Indian families. "I was Agatha," he says. "I might have thought I was Sophie, but Agatha was who

"Maybe my secret goal is to scare the pink princess out of a lot of little girls."

I really was." He was devoted to Disney animations as well as to Roald Dahl's stories ("I had a bit of a dark edge as a kid," he says). As an adolescent, he listened to Madonna incessantly. By the time he arrived at Harvard, Chainani's fascination with fairy tales—and with female villains in particular—was entrenched. "A female villain is infinitely more clever than a man," he says. "Her evil relies not on brute violence, but on the ability to manipulate, seduce, or recruit—in sum, a deeper, more thrilling corruption."

A freshman seminar on the portrayal of witches in children's literature, taught by Loeb professor of Germanic languages and literatures Maria Tatar, chair of Harvard's folklore and mythology program, enlivened Chainani's first year. (Tatar became a mentor; commenting on *The School for Good and Evil*, she wrote, "It is not often that someone comes along who can reinvent fairy tales and reclaim their magic.") Three years later, he wrote a senior English thesis about the reinvention of wicked women as fairy-tale villains. His academic efforts earned him a Hoopes Prize, the Le Baron Rus-



Independence Day, 1942: the first field test of napalm, behind Harvard Business School

COURTESY OF HARVARD UNIVERSITY PRESS/LOUIS FIESER, THE SCIENTIFIC METHOD

sell Briggs Commencement Prize, and a *summa cum laude* degree.

He went on to earn an M.F.A. from Columbia University's film school and worked for a few years as a screenwriter for hire. Yet his concept for his own contemporary fairy tale never stopped tugging at him; he wrote it first as a film treatment. "It was going to be a movie," he says. "I never thought it would be books." Producer Jane Startz, however, saw it as a literary series—so he and Startz (whose feature films include *Tuck Everlasting* and



Ella Enchanted) adapted the treatment into a proposal for a book trilogy. Within 72 hours, Startz had sold the books and optioned the movie rights herself. Chainani is currently writing the screenplay for *The School for Good and Evil*, along with the second and third installments of the novel (due out in 2014 and 2015, respectively).

The author considers his new book a modern-day fairy tale and a survival guide for children—boys as well as girls. "I think there is a bit of an urban legend that boys won't read books that have

female protagonists," he says. "As they did with the original Grimm fairy tales, boys don't respond to gender in a story—but simply to the circumstances that befall protagonists."

Chainani draws parallels not only to the Grimm brothers' works, but also to J.K. Rowling's *Harry Potter* series, which he greatly admires. "Her attention to magical details was unprecedented," he says. "I preferred to spend more time on the kids."

But he doesn't wish to coddle his readers. "I don't want my readers to feel safe," he says. "I want to give them insight into different forms of good and evil." Then he pauses. "Maybe my secret goal," he says, "is to scare the pink princess out of a lot of little girls."

Soul Beyond the Skin

Indelible Lalita's saga of pigmentation and personhood

by LAURA LEVIS

FOR THREE YEARS, documentary filmmaker Julie Mallozzi '92 had learned of every fateful turn in Lalita Bharvani's life—her affliction with vitiligo, an autoimmune condition that blotched her dark skin with white; her battle with ovarian cancer; and, out of nowhere, heart failure. But now, for the first time, Mallozzi wanted to turn off the camera.

Bharvani lay motionless a few feet away from her on a hospital table, surgeons readying to cut into her chest for open-heart surgery. "She's lying there with only 40 percent of her blood in her body and

the other 60 percent is in this machine, so you see this large quantity of blood," Mallozzi recalls. "It was just the reddest red I have ever seen in my life." But Mallozzi did not turn off her camera, recalling something her subject had once told her: "When I asked her why she would let herself be filmed in all these intimate moments, she said that she was very unselfconscious—she has come to a place where she has realized her body is not really who she is." Says Mallozzi, "I think she's a beautiful woman, but she no longer stakes her identity in her body."

Indelible Lalita tells the story of Bharvani, an Indian woman who began to lose her skin pigment as an adolescent and then migrated from India to Paris and eventually Montreal. Now 60, with completely white skin, she copes with her own identity transformation as she battles a



Filmmaker Julie Mallozzi intercut scenes of Lalita Bharvani at home, tending to her garden (top) or doing yoga, with startling images of x-rays and medical tests, including an echocardiogram (above). One poignant scene shows Bharvani visiting her elderly mother in India.



host of serious medical ailments, finding strength in her strong marriage and her Hindu faith. The film will be shown on the Public Broadcasting Service World television channel in May.

To tell this story of resilience in the face of bodily hardship, Mallozzi—a Boston-based filmmaker—traveled every few

months to Bharvani's home in Canada to film, and also followed her to India and France, where the two women traced her roots. As Bharvani became sick and faced countless medical tests and procedures, Mallozzi was alongside her, filming every detail.

Mallozzi—who heard about Bharvani by chance: a friend happened to be her niece—initially thought the documentary

would focus on how vitiligo affected her protagonist's cultural identity. "Within a year and a half of my arrival in Canada, I had become totally white," Bharvani tells the camera. "I think I was in a state of bewilderment or loss. Because of my skin condition I'm not automatically accepted in any races or cultures."

But after getting to know her, Mallozzi realized that her subject had in many

ways triumphed over the loss of her natural complexion. Her other battles in life, as well as her spiritual outlook, made a much more compelling story. "I realized that it was not about this singular loss of skin pigment, but more about the body as an archive of our experiences," says the filmmaker. "Before, I was not at all interested in a spiritual story—I'm not a religious person, and that wasn't a topic I was

Off the Shelf

Recent books with Harvard connections

Touching America's History, by Meredith Mason Brown '61, J.D. '65 (Indiana, \$30). The author, a biographer of Daniel Boone, does "better in history when it becomes concrete and personal." Here, he surveys historical events from the Pequot War through World War II through 20 revealing objects.

A History of the Present Illness, by Louise Aronson, M.D. '92 (Bloomsbury, \$24). A geriatric specialist with an M.F.A., Aronson has crafted 16 short stories for patients, families, and doctors about the experience of ill health. She has a physician's directness: "Wednesday, the day the boy fell..." is a typical opening.

Alexander Wilson: The Scot Who Founded American Ornithology, by Edward H. Burt Jr. and William E. Davis Jr. (Harvard, \$35). A scholarly appreciation and analysis of the creator of the nine-

volume *American Ornithology* (whose letters and draft artwork are in Harvard's collections)—who may have lacked Audubon's artistic/marketing flair. Profusely illustrated.

The Brothers Emanuel, by Ezekiel J. Emanuel, M.D. '85, Ph.D. '89 (Random House, \$27). A family memoir by one-third of a trio of busy, driven brothers, including siblings Rahm, now mayor of Chicago, and Ari, a Hollywood talent agent. It is unclear when the author (a Penn professor and former special adviser for health policy during President Obama's first term) has uninterrupted time at the keyboard.

Adrenaline, by Brian B. Hoffman, professor of medicine (Harvard, \$24.95). A brisk, accessible, useful guide to a molecule with, as Hoffman writes, "enormous cultural significance" for its association with "medically important stress and with excitement, anger, and terror"—and corresponding appearances in the language (a "shot" of, "junkies" for the associated "rush," etc.).

The Practitioner's Guide to Governance as Leadership, by Cathy A. Trower (Jossey-Bass, \$60). What makes a nonprofit board seat—often a sinecure or an empty title—a high-performing contributor to the organization? Trower, a senior researcher at Harvard Graduate School of Education, draws on deep, broad research to model effective behavior. Studded with examples.

Alexander Wilson's colorful craft: a fanciful collection of waterfowl, from Harvard's archives

Letters to a Young Scientist, by Edward O. Wilson, Pellegrino University Professor emeritus (Liveright, \$21.95). Once again writing in a new form (*Anthill*, a novel, appeared in 2010), the pioneering sociobiologist and myrmecologist flowers at his humanistic best, counseling young researchers on the passions and pursuits that go into life-enhancing science.

Recognizing Public Value, by Mark H. Moore, Hauser professor of nonprofit organizations and Simon professor in education, management, and organizational behavior (Harvard, \$59.95). The author, whose work at the University spans the schools of government, education, and business, undertakes the hard scholarly work of performance measurement for value created in, for example, schooling, policing, public health, or other areas. Contemporary political debate rarely acknowledges that such goods exist, or can be measured. Moore's scholarship is a rebuttal.

The Human Spark, by Jerome Kagan, Starch professor of psychology emeritus (Basic Books, \$28.99). A vividly titled overview, by the pioneering developmental psychologist, of his current thinking about the answer to the question, "What does it mean to be human?" Reading him, one resonates to the kind of teacher he must have been.

Children's Chances, by Jody Heymann, M.D. '88, M.P.P. '89, Ph.D. '92, with Kristen McNeill (Harvard, \$45). The recently appointed dean of the UCLA Fielding School of Public Health, a pediatrician, and her coauthor survey the world to make a case for policies that can improve the lot of children and enhance their development around the globe.



looking to cover. One of the main things I have started thinking about more is the idea of your spirit, and what it is. If you're not adhering to a specific dogma, can you still feel like you have a spirit? And how does that relate to your body? I hope that the film makes people think about those things."

In one scene, Bharvani recalls the pain of being diagnosed with ovarian cancer at

30 and realizing she would never be able to have children of her own: "I felt as if I had lost my womanhood to a certain extent," she tells the camera. "You felt as if you were melting into this other identity and you didn't know what this identity was."

Artistically, Mallozzi says, the new film is very different from her other documentary work, in the way it makes use of different types of footage and of intense close-

Translucent Building Skins,

by Scott Murray, M.Arch. '96 (Routledge, \$49.95 paper). By looking at, rather than merely through, "material innovations in modern and contemporary architecture," from lesser-known works to Gehry Partners' glitzy InterActiveCorp headquarters in New York, the architect-author, who also teaches at the University of Illinois, has created an eye-opening, thought-expanding, beautiful work.



A stand-out exterior in lower Manhattan: InterActiveCorp's striking headquarters, designed by Gehry Partners (2007)

Priests of Our Democracy, by Marjorie Heins, J.D. '78 (New York University, \$35). A fine-grained history of the early-1950s loyalty investigations of New York City teachers and professors, and the resulting battles, all the way up to the Supreme Court. The author is founding director of the Free Expression Policy Project.

The Martian's Daughter, by Marina von Neumann Whitman '56 (University of Michigan, \$30). A memoir by the famous mathematician's daughter, no quantitative slouch herself: now back in academia, at Michigan, she was the first woman member of the President's Council of Economic Advisers, and vice president and chief economist of General Motors (at a time and in an industry not notably given to female senior executives).

Tested by Zion: The Bush Administration and the Israeli-Palestinian Conflict, by Elliott Abrams '69, J.D. '73 (Cambridge, \$30). The former adviser to Senators Henry Jackson and Daniel Pat-

rick Moynihan, and to Presidents Ronald Reagan and George W. Bush, provides an insider's first-draft account of diplomacy in one of the world's perennially challenging areas.

Saving Italy, by Robert M. Edsel (W.W. Norton, \$28.95). The race to rescue Italy's art masterpieces during World War II. A companion to the author's *The Monuments Men* (excerpted in "The Arts Army," January-February 2010, page 36), this new volume is populated with Harvardians, too—including the late Mason Hammond '25, LL.D. '94, future Pope professor of the Latin language and literature.

That's Not Funny, That's Sick, by Ellin Stein (W.W. Norton, \$27.95). An enormous history of the Harvard-spawned *National Lampoon* and "the comedy insurgents who captured the mainstream." (See "Funniest Pages," November-December 2010, page 28, for a review of *Drunk Stoned Brilliant Dead*, on the same subject.)

HARVARD ALUMNI ASSOCIATION

TRAVELS

Travel the world with fellow alumni and Harvard study leaders. **Choose from more than 50 trips annually.**

FEATURED TRIPS



OCT 25–NOV 2, 2013
AN INSIDER'S ROME

STUDY LEADER: **HARVEY COX**
HOLLIS RESEARCH PROFESSOR OF DIVINITY



DEC 26, 2013–JAN 5, 2014
TANZANIA FAMILY SAFARI



JAN 1–17, 2014
INDIA'S HOLY RIVER GANGES ON BENGAL GANGA

STUDY LEADER: **DIANA ECK**
PROFESSOR OF COMPARATIVE RELIGION AND INDIAN STUDIES

TO BOOK YOUR NEXT TRIP,
CALL US AT 800-422-1636.
FOR MORE TRIP OPTIONS, VISIT
ALUMNI.HARVARD.EDU/TRAVELS



HARVARD
Alumni Association

Attention 8th to 11th Graders! Aiming for the Ivy League?

Work with the **Top Ivy League**
Consultant in the country,

Michele Hernandez,

Former Assistant Director of
Admissions at Dartmouth College
and author of two best-selling
college guides:

A is for Admission
& **Acing the College Application**

- Unparalleled success rate
- Unlimited time for students and parents
- Advising and facilitating every step of the way!
- Work directly with Michele, not a representative.



Call Now...
Space is limited

Hernandez College Consulting
LLC

hernandezcollegeconsulting.com

1.877.659.4204

michele@hernandezcollegeconsulting.com



Where tradition
meets innovation

Fay
School



SOUTHBOROUGH, MA

Co-educational
boarding
for grades 7-9

www.fayschool.org/boardings

Turn to page 64
to check out

**HARVARD
-IN-
BUSINESS**

A directory of alumni-
owned and -operated
businesses and services

MONTAGE

**Boston-based filmmaker
Julie Mallozzi '92**

ups. The filmmaker intercuts certain scenes of her subject at home, tending to her garden or doing yoga, with startling images of x-rays and medical tests. Much of the content alternates between ideas and images, rather than following a conventional story line.

Mallozzi, whose work focuses mainly on themes of historical memory and cultural identity, has also produced, directed, written, and filmed *Once Removed*, the story of meeting her mother's family in China and learning about their involvement in that country's complicated political history, and *Monkey Dance*, which reveals how three Cambodian-American teens in Lowell, Massachusetts, navigate a difficult adolescence and unite through traditional Cambodian dance. A visual and environmental studies concentrator, she studied with Arnheim lecturer on filmmaking Rob Moss and subsequently taught in the department for 13 years.

A major reward of making *Indelible Lalita*, she says, was getting to know someone she now considers "like an auntie and a men-



MINHAE SHIM

tor." The women are 20 years apart in age, but Mallozzi—who is half Chinese and half Italian—says they share a blended background and a combination of Eastern and Western philosophies on life. Bharrvani, she explains, "has a very interesting combination of this carpe diem Western mentality—like, you have to 'go for it' and take good care of your

body and do everything you can to be healthy and follow your dreams—and, on the other hand, this kind of Eastern acceptance of everything, like the cycles of life, reincarnation, and understanding of your small place in a larger world."



Visit harvardmagazine.com/extras to view a clip from the film.

A Scientist in Full

The fruitful, flawed Louis Agassiz

by JAMES HANKEN

ON January 15, 1873, Joseph Henry, secretary of the Smithsonian Institution, recounted in his diary a "long conversation" he'd had that morning with Louis Agassiz, founding director of Harvard's Museum of Comparative Zoology. The MCZ had been founded in 1859, and the Smithsonian itself only 13 years earlier, and it was important to Agassiz that the two up-and-coming powerhouses agree on their respective roles in nineteenth-century science. Agassiz, who was rarely able to conceal his grand ambition, informed Henry that the MCZ "is now the first zoological museum of the world.

[Its] object is to form general collections of the whole world...," adding that "the Smithsonian and the Cambridge museums ought not to duplicate specimens...that the aim of the Smithsonian is the preservation of every thing american...." In effect, Agassiz was telling Henry that the Smithsonian should confine its activities to North America and leave the rest of the world to Harvard!

This was audacious, to be sure, but quite in character for the man who, as a 21-year-old student at the University of Munich, declared in a letter to his parents his desire to be "the first naturalist" of his time: "I feel within myself the strength of

a whole generation to work toward this end, and I will reach it if the means are not wanting.” A highly skilled paleontologist and geologist (often credited with having discovered the Ice Age), renowned lecturer, tremendous popularizer of biology, and founder of institutes (he lobbied President Abraham Lincoln and others in the federal government to establish the National Academy of Sciences), he was named professor of zoology and geology at Harvard in 1847, soon after his arrival in America, and awarded an honorary degree a year later. His influence and renown in the mid nineteenth century for a time eclipsed even that of his longtime intellectual foe, Charles Darwin (whose “transmutation theory” Agassiz would never accept). Christoph Irmscher’s important new biography of this outsize figure provides a fresh evaluation of Agassiz’s professional and personal life, of his disproportionate

influence on the development and professionalization of science in America, and of his abuse of scientific authority in support of false claims regarding race and social inequality. And to the end he held tightly and uncompromisingly to his views of special creation—despite increasing empirical evidence for organic evolution (including work by his Harvard colleague, the renowned botanist Asa Gray) and a rebellion by his students and assistants, nearly all of whom defected to the Darwinian cause. Everywhere Agassiz looked, he saw divine purpose in nature; biological species were “a thought of God.”

Yet human personality and personal accomplishments are complex—and Agassiz was perhaps more complicated than most. He espoused racist views but denounced slavery as “a moral disease.” In collaboration with his second wife, the former Elizabeth Cabot Cary, he pioneered advanced education

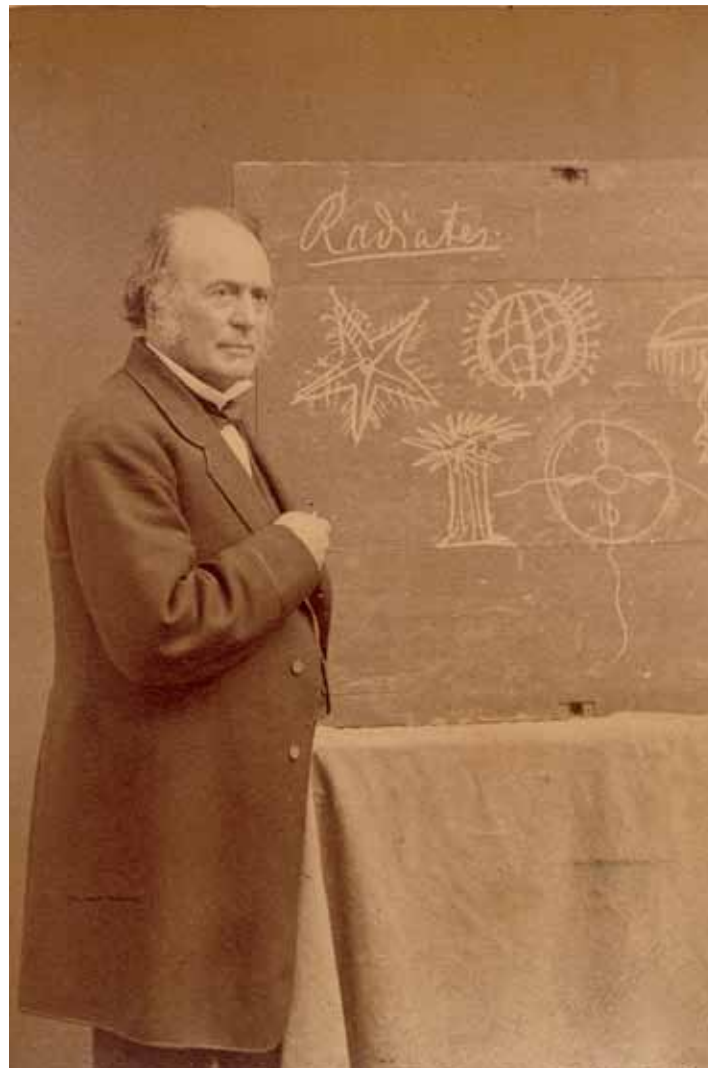
for women (including founding a coeducational summer school for teachers of natural history on Penikese Island, in Buzzards Bay), declaring, “in a country where only half the nation is educated, there can be no complete intellectual progress.” (Elizabeth Agassiz would become a co-founder and the first president of what became Radcliffe College.)

Can we forgive Agassiz in any way or to any extent for his extreme racial views, even if only by acknowledging that, in the mid to late nineteenth century, questions of racial identity and equality were not nearly as well resolved as they are today? (Similar views were held by many of his contemporaries; even Abraham Lincoln, before issuing the Emancipation Proclamation, had favored “colonization”—the idea of compensating slaveholders and

Christoph Irmscher, *Louis Agassiz: Creator of American Science* (Houghton Mifflin Harcourt, \$35)

entific authority in support of false claims regarding race and social inequality.

There is much about Agassiz to disagree with, to dislike, even to decry, and Irmscher does not shy away from such episodes and ideas; his extensively sourced book provides a more critical evaluation of his subject’s life and professional impact—both good and bad—than do many earlier biographies, whose authors had a close personal relationship with the Agassiz family or a longstanding professional affiliation with Harvard. Agassiz treated his first wife poorly. Early in 1845, the former Cécile Braun left their home in Neuchâtel, Switzerland, with their two daughters to live with her brother in Karlsruhe, Germany. The following year, Agassiz sailed to America alone. (He brought the girls and their older brother to live with him after their mother’s death



Distinguished couple: Professor Louis Agassiz, ever the scientist, ever the creationist, despite the evidence for Darwinian evolution, and Elizabeth (Cary) Agassiz, who emerges impressively from the last chapter of this new biography



On the Hassler expedition, 1871-1872. Far left, Louis Agassiz; third from left, Elizabeth Agassiz

returning freed slaves to Africa or Central America—as the most practical and realistic solution for slavery.)

Irmscher says no. Agassiz's scientific studies betray little if any interest in the biological meaning and significance of race before he arrived in North America, or, indeed, afterward, at least as applied to nonhumans—yet he must have recognized quickly the preoccupation with race prevailing in the United States, especially Boston, in the years leading up to the Civil War. The situation, Irmscher argues, provided an irresistible opportunity for the charismatic and confident Agassiz to assume the mantle of scientific authority in his extreme pronouncements about human race, which could only enhance his professional standing and help him achieve his ambitious goals. Not all biographers of Agassiz are as unforgiving. To Edward Lurie, for example, in *Louis Agassiz: A Life in Science*, “Agassiz, just arrived in America, was hardly aware of the use to which his ideas might be put by defenders of slavery,” but that claim seems hard to reconcile with Agassiz's sharp mind and repeated, extended visits to antebellum Charleston, South Carolina, where he was feted by the Southern aristocracy. Irmscher's detailed scrutiny of Agassiz's racial views is in keeping with other recent analyses by Adrian Desmond and James Moore (in *Darwin's Sacred Cause: How a Hatred of Slavery Shaped Darwin's Views on Human Evolution*)

and Bass professor of English Louis Menand (*The Metaphysical Club: A Story of Ideas in America*). Irmscher's final chapter presents a poignant account of the Hassler expedition to South America, on which Louis, Elizabeth, and the rest of their field party embarked in December 1871, returning the following summer, slightly more than a year before Louis died following a stroke. The expedition is significant in several respects, not least in retracing to a considerable extent the route of Darwin's own voyage to South America on the *Beagle* more than 35 years earlier, including a visit to the Galápagos Islands. By 1871, 12 years after the initial publication of *Origin of Species*, the inadequacy of Agassiz's creationist views was widely accepted by most of the scientific establishment on both sides of the Atlantic, but Agassiz, it seems, still hoped that field-based observations and new collections would yield the evidence required to disprove Darwin and his supporters.

Agassiz would, once again, be proved wrong. Instead, the person who emerges

most impressively from the Hassler expedition, and from this last chapter of Irmscher's biography, is Elizabeth Agassiz. Possessed of her own keen powers of observation of the natural world, she was a talented, indeed prolific, writer who transcribed many of her husband's lectures into (his) published articles and wrote her own books on natural history for the general public. Her many accomplishments, at a time when most educational and professional opportunities were restricted to men, are a testament to her intelligence, energy, organization, and drive, and the considerable attention paid to her by Irmscher (a former lecturer in English and in history and literature at Harvard) is a particularly attractive feature of his book.

Irmscher's treatment offers many lessons for today. There is no denying that Louis Agassiz was an exceptional naturalist who brought keen powers of observation to his studies of Earth's history and biological diversity. He introduced to American science the tradition of field biology, which extends to the present day. Yet many of his supposedly empirically based conclusions were deeply flawed. The history of science is replete with examples of theory driving observation. In the extreme, these underscore the fallacy of pure objectivity in science, a message that was as important in Agassiz's time as it is in ours. ▢

James Hanken, professor of biology, is director of the Museum of Comparative Zoology and Alexander Agassiz professor of zoology and curator of herpetology in the museum.

Chapter & Verse

Correspondence on not-so-famous lost words

Leslie Gillis requests title and author for a book that ends, “I don't know. I'm just a city boy myself”—in response to a question about whether flowers popping up through the snow are crocuses.

“iron filings” (March-April). Alison Harris recalled this fable about steel filings and a magnet from *Extraordinary Tales* by Jorge Luis Borges and Adolfo Bioy Casares (1971, edited and translated by Anthony Kerrigan; page 96). Their source, Hesketh Pearson's *The Life of Oscar Wilde* (1946;

page 212), credits Richard Le Gallienne's *The Romantic '90s* (1926; pages 254ff).

“thoughts of great men” (March-April). Mary Ann Brewin found no citation for this alleged Mark Twain remark, but recommended www.twainquotes.com for many other sourced comments.

Send inquiries and answers to “Chapter and Verse,” *Harvard Magazine*, 7 Ware Street, Cambridge 02138, or via e-mail to chapterandverse@harvardmag.com.



Harvard Magazine's Commencement & Reunion GUIDE 2013

- Senior Standouts
- Hats of Their Own
- The Week's Events
- Square Meals
- The Builder's Art

Photograph by Jim Harrison



Hammond Residential



Cambridge...Highly desirable penthouse on Charles River. VIEWS! 3 bedrooms, 3 baths. Fireplace. 70' terrace. Concierge and professional management. Parking. \$3,000,000



Cambridge...Brattle area. One of Cambridge's most lovely residences. Superb setting. Grand rooms, very high ceilings. Huge windows. Elegant gardens. Garage. \$3,700,000



Cambridge...Spacious and well-located turn-of-the-century single-family with many amenities and period detailing. 6 bedrooms. Oversize family room. Full of light. Private garden. Garage. \$1,650,000



Cambridge...Off Brattle St. on landscaped 1/2 acre! Handsome and substantial Colonial Revival with porte-cochere and 2-car garage. English conservatory family room off lovely eat-in-kitchen. 3 fireplaces, library, grand double height entry hall. \$4,950,000



Watertown...Unparalleled panoramic views from 8th-floor 2-bedroom, 2-bath in established doorman building. Two large balconies. Two garage parking spaces. Indoor swimming pool. \$498,000



Cambridge...Elegant and bright grand attached single-family. Brattle area side street. High ceilings, generous rooms. 5 bedrooms/studies. Period detail. Superb layout. Landscaped garden. Garage. \$1,848,000



Cambridge...Elegant Victorian near Harvard Square. 3 bedrooms, 3 1/2 baths plus an auxiliary garden apartment. Exquisite details. Magnificent garden. Parking. \$2,295,000



Cambridge...Pavilion, this lovely first floor, renovated, 1-bedroom unit has a private fenced patio and south-facing, floor-to-ceiling windows in the living room. 1980s, professionally managed, brick building. www.170Gore.com. \$309,900



Cambridge...Harvard Square renovated 15th-floor, doorman, COOP apartment. Incomparable view! Gorgeous kitchen. 2 Beds. 2 Baths. Garage. \$1,500,000

www.hammondre.com

Cambridge, Belmont, Watertown & Somerville
Residential, Commercial, Rentals & Property Management
Cambridge Office 617-497-4400 • Belmont Office 617-484-1900

View our latest interactive on-line magazine at: www.hammondmagazines.com

View more listings on the
inside front cover!

Senior Standouts

A glimpse into the class of 2013 • by Nell Porter Brown

EACH YEAR, about 1,600 students graduate from Harvard College, entering the wider world with a mind-boggling range of individual talents and ambitions. Each will succeed on his or her own terms. Here, we introduce a mere seven members of the class of 2013—a snapshot of Harvard's newest alums.

• • •

The “jack of all fruits”

JACKFRUIT is a large, oblong-shaped, greenish-yellow prickly product with a mighty tough peel. To some, its sticky ripe flesh tastes like a mix of banana, mango, and pineapple. Unripe, it's more like chicken.

Annie Ryu sees jackfruit as a jackpot. She first tasted it (it's virtually unheard of in the United States) at a street cart while traveling in Bangalore, India, and was impressed by its versatility and healthy attributes. “It's super-abundant: one tree in southern India produces almost three tons of fruit a year,” she says, and “the majority of that now goes to waste.” Ryu is bent on changing that. Later this year, Whole Foods will begin carrying dried jackfruit that is grown, processed, and packaged through her fledgling company, Global Village Fruits.

Run from her dorm room for the last two years, the company has connected cooperative growers with a potentially lucrative market. Now she just needs to get people to buy it. “It's a great source of potassium, magnesium, and fiber,” she points out. “The ripe ones have beta carotene.” In testing three dozen recipes, she found that it makes good cake, ice cream, and burgers—and the seeds can be used to make gluten-free flour. A Harvard lab is even researching jackfruit's potential anticancer properties.

She encountered this potential “jack of all fruits” in 2011, while working on a separate organization she runs with her broth-



Annie Ryu, Jenny Ye, and Dalumuzi Happy Mhlanga

er, Harvard medical student Alex Ryu. The nonprofit promotes healthcare by texting appointment reminders to more than 4,000 young mothers in rural India.

Ryu grew up in Rochester, Minnesota, home of the Mayo Clinic. At Harvard, she combined her pre-med studies with a concentration in social anthropology “after falling in love with the discipline” freshman year. She spent last summer immersed in St. Paul's Hmong community for her senior thesis, which explored changing attitudes toward illness and American healthcare among the group's young adults. (Traditionally, Hmong culture views sickness as the result of a soul leaving the body. One remedy is a soul-calling ceremony performed by a shaman.)

Ryu has deferred her Harvard Medical School acceptance. She plans to return to India with a Rockefeller Fellowship to work

on agricultural-supply chains for jackfruit and other indigenous food products. “I do what it takes,” she explains, “to get the things I care about done.”

• • •

The “80 percent”

AS A 15-YEAR-OLD in Zimbabwe, Dalumuzi Happy Mhlanga stood before his mirror, mixing and matching the few clothes he had. On a scale of one to 10, he judged himself a three. “This really got to my sense of self-worth. As a teenager, clothes and how you look are very important,” says the social-studies concentrator. “Then I snapped out of it. I thought, ‘What are you doing? It was not up to you to be born into this family. Look into yourself.’”

The moment came “when I had to convince myself that my worth was based on



Charlie Haydock, CFA
Chief Investment Officer
A.B. 1974



Adrienne Silbermann, CFA
Director of Research



Knowing wealth. Knowing you for 175 years



Jay Emmons, CFA
President

Why has Welch & Forbes thrived for 175 years?

Relationships.
Relationships built on accessibility, trust and stability. For us it's the only way.

If you value an enduring relationship with a firm expert in comprehensive portfolio management and tax, trust and estate planning, call Charlie Haydock '74 at 617-557-9800.

*At Welch & Forbes, we know wealth.
And we know you.*



WELCH & FORBES LLC www.welchforbes.com

45 School Street, Old City Hall, Boston, MA 02108 | T: 617.523.1635

COMMENCEMENT & REUNION GUIDE

my talents and what I can give the world," he says. "And that was liberating."

Seven years later, Mhlanga is the founder and chief executive officer of Lead Us Today (www.leadustoday.org), an organization that teaches leadership and entrepreneurial skills to more than 300 Zimbabwean high-schoolers annually. For his success in challenging students to create social change, he won the 2011 College Social Innovator Contest (sponsored by the Harvard Social Innovation Collaborative and Forbes.com). This fall, he will be at Oxford as a Rhodes Scholar.

Mhlanga's middle name is Happy. It's not uncommon for Zimbabwean names to be adjectives, he points out, or even common nouns. "I think it's because my mom was happy to have a son and she wanted me to be happy as well," he says. "My sisters' middle names are Grace, Faith, and Mercy. My mom is very religious."

The topic of his senior thesis is Zimbabwean identity: specifically, how members of the second-generation in families who had immigrated to Zimbabwe from Zambia and Malawi view themselves and their citizenship—and their quest for essential documents, such as birth certificates and passports—in light of a 2003 national law that revoked it. The law affected an estimated one million people, about 10 percent of the population. "The children were born in Zimbabwe, they knew nothing of the place their parents came from," says Mhlanga, who has gone home every summer to run Lead Us Today. "To them, this law was nonsensical."

With four full-time staffers and 16 mentors, Lead Us Today runs a year-long program that teaches teenagers the theories and skills needed to engage in tangible social-change projects (e.g., community gardens and a local night school). The organization is also trying to address the economic future of "non-book-smart students," he says, because there is 80 percent unemployment in Zimbabwe. "Only about 20 percent of high-school students pass the required national exam," he reports, "and very few jobs exist even for them. What happens to the 80 percent?"

At Oxford, Mhlanga will focus on African studies; he hopes eventually to earn a doctorate in anthropology. Academia appeals: a two-year stint as a teaching assistant for

*Fresh Pond
Ballet*



Ballet classes: age 3 through teen, adult and pointe.
Summer classes start July 8 • Fall classes start Sept. 9
www.freshpondballet.com

Nina Alonso, Director, FPB

1798a Mass Ave, Cambridge, MA 02140 • 617.491.5865



courses on “exercising leadership” at the Harvard Kennedy School was rewarding. He likes spending time with older faculty members, he says, “because they put a lot into perspective.” Like what? “In life, there is no point of arrival,” he reports, without a blink. “At 22, you think you will arrive when you have a family, a house, a good job. But it never happens. You are always exploring, often confused. You are always growing, and seeing the world differently.”

Most of his Kennedy School students already have professional careers; some are even former government ministers. “It was most humbling to see such sophisticated people sitting down to listen to what I had to say,” he says, with a smile. With a Harvard degree and a Rhodes scholarship, it would be easy “to look to learn in a particular place from particular people and shut down to the rest of the world,” he adds. “I will be open.”

• • •

“People *are* engaged”

GROWING UP in New York City’s Chinatown, Jenny Ye learned firsthand about the politics of gentrification, multiculturalism, and affordable housing. Demographic changes in recent decades have fractured the neighborhood and resulted in evictions. She joined a tenant-rights group: “That’s when I first got excited about politics. It was interesting and local,” and, she says, “I was involved with people I cared about in something that shaped my own neighborhood.”

At Harvard, she has supported causes centered on inclusion, such as anti-punch campaigns (opposing exclusive student social groups) and the push to have the University’s capital campaign include funds for creating more student social space, especially for late-night gatherings and free events.

As student president of the Institute of Politics (IOP) in a presidential election year, Ye focused on “getting as many people excited about the election as possible and out to vote.” She worked with campus political clubs, organized debates, helped produce a night of comedy targeting politics, and promoted TurboVote (which facilitates voting by providing registration forms and deadline reminders online). “Election night,” she recalls, “was one of the most exciting nights of my college life.” The IOP conducted fac-

ulty and student radio interviews throughout the day; student volunteers at the polls called in reports. Former IOP fellows were tapped for observations from Washington, D.C. “I have found a lot of people *are* engaged in and organizing around different political issues,” she says. “Working on something you care about has always been satisfying to me.”

Ye is a computer-science concentrator, with a secondary focus on ethnic studies. Coding, causes, and community-building seem to go hand-in-hand for her. During her summers, she organized volunteer engineers to teach computer science to New York City children through a program called CodeEd. She taught a civics class to Cambridge fifth-graders (on computers and citizenship), and currently teaches coding to girls at the Community Charter School of Cambridge. “I love being in front of the classroom and preparing the material,” she says. “It’s important to get girls and women into computer science. I was lucky enough to have had an amazing CS teacher in high school.” The wider issue of women’s rights in the educational and political arena caught her attention when she was the IOP liaison for feminist Kim Gandy, president and CEO of the National Network to End Domestic Violence. After graduation,

Ye plans to move back to Chinatown, where her family still lives, and find a job that “applies technology to social justice issues”—“and be involved in New York City politics!”

• • •

“Spaces falling into disuse”

THIS SPRING, Sally Scopa photographed the ins and outs of the College’s Linden Street art studios. The space, formerly squash courts, now holds undergraduate artists, the Harvard Wireless Club, and “stairways, tunnels, and intersecting passageways” that connect it to Adams House. “What I am trying to do is talk about the architecture of the building,” says Scopa, a visual and environmental studies (VES) concentrator, “but also create images that somehow confuse the architecture of the original space, that call attention to the distortion and flattening that occurs when we photograph the built environment.”

The project culminated in an April installation of panoramic black-and-white images stretching around the walls of the student-run Monday Gallery at the studios, at 6-8 Linden Street. The exhibit complements Scopa’s senior thesis, for which she shot art-making spaces, including darkrooms, and



Sally Scopa and
Ryan Christ

enlarged them to near life-size. Of all the old photography darkrooms across campus (every House had its own), none are maintained for regular use by today's digital students, though some are cleaned out and reopened periodically. "Part of my interest is also in thinking about how these spaces are falling into disuse," she says, "but still reflect their original purpose" in reincarnated forms.

At first, art seemed too narrow a focus at Harvard. An introductory painting course her freshman year changed that. Former VES professor Drew Beattie installed still lifes of found objects—drapery, old furniture scavenged from around the Carpenter Center—that took up the entire center of the studio where he taught. "We had to return to the same spot, many days in a row, and create a new painting each week," Scopa notes. "It was extremely hard." That class, coupled with courses that spanned film, art history, critical theory, and architecture, culminated in a broad and rigorous critical education outside the studio. She also wrote about art

for *The Crimson*, studied Italian, and developed her interest in urban planning and the intersection of art, culture, and history. Hence she's considering a move to Berlin after graduation. "It has a vibrant visual art scene and I am also fascinated by the city's architectural landscape, which reflects a rich and complicated history," she says. The overall cost of living there, for essentials, is also relatively low, compared to Boston. "I'd have the freedom and time to fully explore," she adds, "and figure out what my next step might be."

• • •

"Live life more deliberately"

FROM A YOUNG AGE, Ryan Christ saw the tangible losses caused by disease. His family took care of his great-aunt when she had Alzheimer's; later, his grandfather began losing his once-sharp mind to dementia, while his grandmother suffered for years with multiple sclerosis in a nursing home. "Biology naturally puts a cap on us with human mortality," says

Christ. "But you have this large contingent of people with Alzheimer's who are losing their connection to memories and reality. It wipes away life without actually killing us."

In 2011, he founded the Harvard Alzheimer's Buddies Program (HACB), which pairs students with patients at Hebrew Senior Life Rehabilitation in Boston, based on common interests. (His classmates Anita Murrell and Jessica Zuo were also instrumental to the program.) Christ sees his own buddy, a retired physician, on Sundays; they talk about science and medicine. He always brings her flowers.

The lesson, he says, is that "we have to reach out for what is really valuable to us and live life more deliberately, in the transcendental sense." Raised in the Episcopal Church, he adds, "For me, Christianity teaches us that our connections to other people are the most important currency and we need to live out those relationships every day."

As a freshman, Christ (pronounced *krist*) studied the genetics of fruit flies. It meant countless hours spent teasing out micro-

PREMIER PROPERTIES

PROFESSORS ROW IMPECCABLY RENOVATED CAMBRIDGE



Restored Colonial Revival townhouse. Exquisite attention to detail. Designer kitchen and baths. Parking for 2 cars. 3+ bedrooms and 4 ½ baths. Media room. Garden with terrace. Divinity School Area close to Harvard Square, shops, restaurants, and the university.

Exclusively offered \$2,150,000



BARBARA CURRIER
THE CURRIER TEAM | FINE PROPERTIES

Phone: 617-593-7070

Email: BarbaraCurrier50@gmail.com

Web: www.BarbaraCurrier.com

171 Huron Avenue • Cambridge, Mass. 02138



WALKER STREET

Gracious and exquisite Victorian, on a highly desirable side street, convenient to Harvard Square. The 9-plus-room residence has 3 bedrooms and 3.5 baths, plus an auxiliary 1-bedroom, 1-bath garden apartment. Magnificent finishes and details. Fireplace. The professionally landscaped oasis offers a pond. Private driveway.

\$2,295,000

CAROL KELLY & MYRA VON TURKOVICH

Vice Presidents | Hammond Real Estate
carolandmyra.com | hammondre.com
617.835.5008 & 617.834.0838

EXCEPTIONAL ANTIQUE ON 2.12 ACRES IN DANVERS



The 1756 Dr. Caleb Rea Homestead has been lovingly maintained and features gracious rooms and wonderful period details including 6 working fireplaces, paneled walls, Indian shutters, exceptional hardwood floors, crown molding and built-ins. Offering 5 bedrooms, 3.5 baths, this home is set on 2.12 acres with beautiful gardens and koi pond creating a park-like setting. Exclusively offered at \$575,000



J Barrett & Company

1 Beach Street,
Manchester-by-the-Sea, MA
01944

www.jbarrettrealty.com | 978-526-8555

If you would like to list a property in our July-August issue, contact Abby Shepard: 617.496.4032.

HARVARD
MAGAZINE

scopic bits of brain matter, and he became fascinated by the power of DNA sequencing to unravel the genetic pathways that underlie diseases. Pursuing this work as a career required deep training in math and statistical modeling.

Christ will graduate with two degrees: a bachelor's in applied math and a master's in statistics. In the fall, he plans to study population genetics through the University of Oxford's MalariaGen Project, and earn a doctorate of philosophy in statistics at the end of three years. (Malaria caught his attention during a summer internship spent working on maternal health in Tanzania.) Christ says the unprecedented database of full-sequence DNA from malaria patients across the globe helps show, most immediately, how the disease is spreading, but, "in the long run, the algorithms piloted on these relatively small malaria genomes could be used to analyze the DNA of Alzheimer's patients."

After Oxford? Medical school in the United States. "I think God, or life, handed

me this opportunity to enjoy statistics and medicine *and* people. The best way I can give back is to find my niche," says the Delaware native. That's not necessarily as the top statistician, or even best doctor. He will be a person who fosters critical communication between the fields of medicine and statistics, which will be "increasingly valuable in making new treatments possible," he says. "Just knowing that I could play some role in unraveling Alzheimer's pathogenesis would be simply exhilarating."

• • •

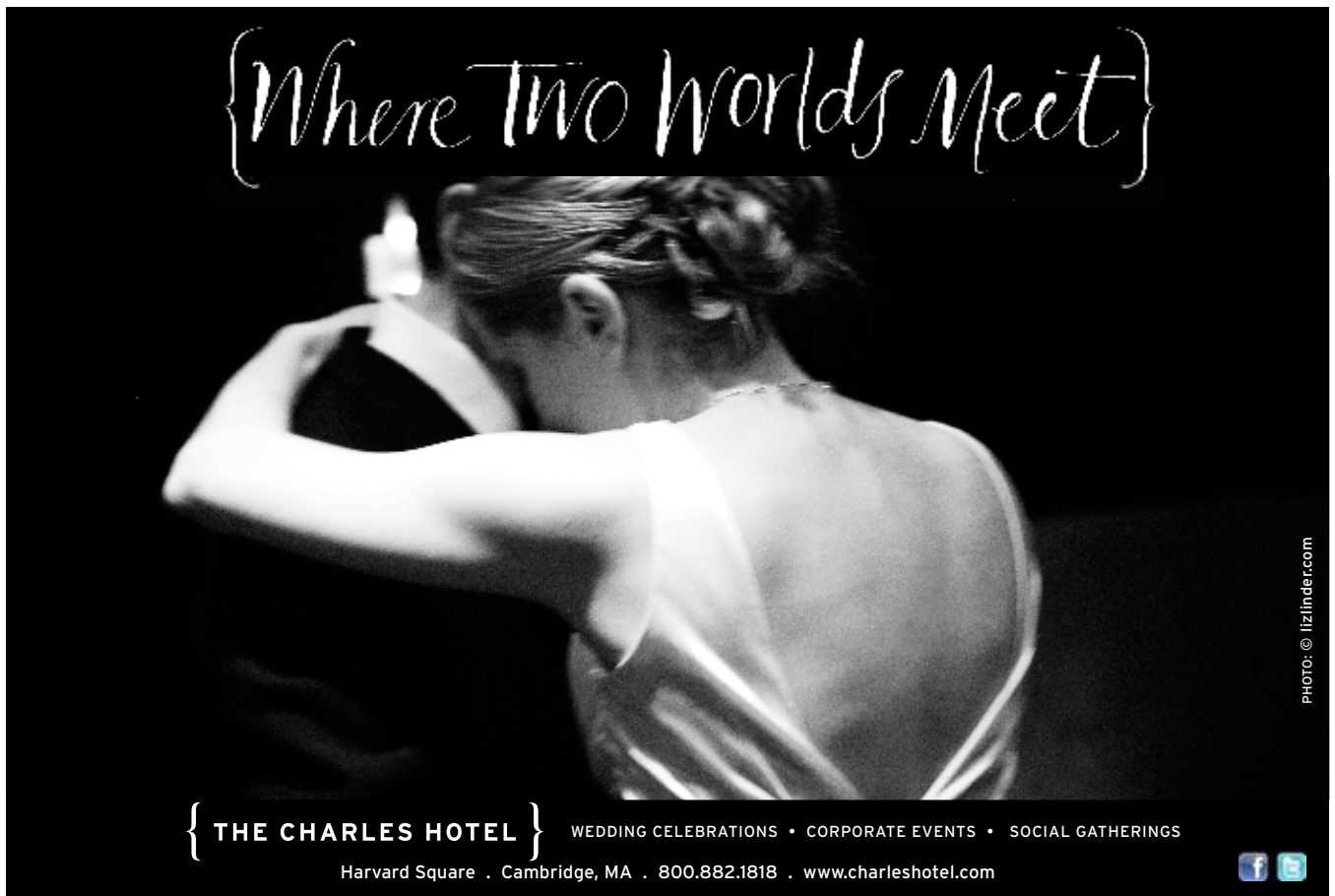
"Clear, pure, beauty"

UNLIKE WORRIED, professionally focused students, Ariel Kiyomi Lepon has ranged widely at Harvard. She is a First-Year Outdoor Program leader who was so engaged by learning first aid that she went on to earn Wilderness Emergency Medical Technician certification. She is also a modern dancer, a peer-advising fellow, and, of late, a burgeon-

ing scientist. She took biology and chemistry as a junior and senior and someday plans to go to medical school.

For now, she cannot imagine spending "all day at a desk and working regular hours. I want to move my body, and be outside." After graduation, she will head to Colorado ski country for a summer job as leadership programs director at the Keystone Science School. After that, she hopes to be a full-time ski patroller, and jokes, "I don't know how many Harvard grads are applying for jobs whose descriptions require use of a chain saw and explosives in all forms of weather."

The ski-patrol post would put her on the mountain from 6 A.M. to 6 P.M., clearing trails and ministering to the lost and/or injured. "While I am young and can lift heavy equipment, ski every day, and use my WEMT certificate, this is an opportunity I should take," she declares. Medical school and other careers will still be an option in five years. "Having people who are more mature and who have had other life experiences besides



{Where Two Worlds Meet}

{ THE CHARLES HOTEL } WEDDING CELEBRATIONS • CORPORATE EVENTS • SOCIAL GATHERINGS

Harvard Square • Cambridge, MA • 800.882.1818 • www.charleshotel.com

PHOTO: © lizlinder.com

f t

school is a very good thing," she adds, "especially with the daily dilemmas and moral questions you face every day as a doctor."

Lepon has a special interest in how the fields of medicine and education come together in studying and treating autism. The social-studies concentrator's senior thesis explores how the role and identity of parents of autistic children have changed historically. The topic stems from her high-school experiences with families with autistic children, when she was trained to be a paraprofessional therapist. "In elementary school I was paired with an autistic child" as a buddy, she explains. Later, the boy was killed by his father, who then took his own life. "I felt there was so much injustice in the world, I wanted to do something," she says of her high-school efforts.

Lepon used to go by Ariel, "lion of God." At Harvard, she switched to Kiyomi, her

with student dancers at Cambridge's public high school. "There isn't really a modern dance company in Keystone," she acknowledges. "But if I am skiing every day, that's sort of like dancing with the mountain."



"Living proof of the concepts"

THIS SPRING, Adam B. Kern co-taught a course on the "philosophy of parenting" to inmates at Boston's Suffolk County House of Correction. One topic was punishment. "How and when should we punish kids?" asked Kern in discussing an excerpt from *The Moral Education Theory of Punishment*, by Jean Hampton. "Should we hit them? Should we give them a time out, accompanied by telling them why? The interesting thing is you can use the *why* question to answer the *how* question. Hampton claims that we should pun-

ishment. They also have the time to think things through. "They are enthusiastic. There are students who ask to start writing essays and who want extra readings," he says. "I can teach the class Socratically and it's easy because I ask them questions and they respond. It may not be the right answer or even a good one, but they don't care. They are willing to give a first effort because they are fearless."

One woman said the classes give her a sense of self-worth. A man came up after a 50-minute discussion on Kant and asked, "Do you all talk about these things in conversation at Harvard?" Kern told him, "Not ordinarily." And he said, "Because every night after class I go back to my cellies and talk to them and it opens up whole new worlds."

If Kern has one aim, it is to make sophisticated ideas accessible. Philosophical products now fall into two groups, he explains: one for academics and one "for the rest of the folks." The material for lay readers is simplified to the point of being trite. The former group is complex, precise, and uses its own language: "If you approach it with no background, it is completely baffling," he says, and adds, "I am acutely aware of this because I've done it."

What's needed is a replication of "that feeling of interacting with a professor," he says, "of coming out with your first big questions and then getting help breaking them down into precise inquiry." Media technology and interactivity play a huge role, as do visualizations. Kern joined an MIT student to develop "LOGOS," which models ideas as images of 3-D buildings. One features Kantian philosophy; another being developed will depict a set of experiments and inferences discussed in *Phil 151Z*: "The Philosophy of Quantum Mechanics" (taught by professor of philosophy Edward J. Hall).

Kern, who hails from Indiana, will continue his inquiries through the Von Clemm Fellowship at Oxford in the fall. "I love thinking things through and writing and research, but I don't think that's a complete life," he notes. Any future as a professor would also encompass politics and law, and make room for a wide reach beyond books and the classroom, "to engage in living proof of the concepts." In the end, "inquiry does not have to presuppose that we get to some final, conclusive truth," he adds. "We just need to get to better and better answers." ▽



Adam B. Kern and
Ariel Kiyomi Lepon

Japanese middle name. (Her mother is third-generation Japanese-American and grew up in Hawaii, she says, "and my father is Jewish and from Ohio.") *Kiyomi* means "clear, pure, beauty," she adds. "It's the way I try to live every day, in a graceful way, the way I want to see others live, too."

Dance has always been a part of her life. This spring she worked on choreography

ish people to teach them moral knowledge."

Who is more viscerally versed in how and whys of punishment: the prisoners or the Ivy-educated Kern? But in two years of running philosophy seminars at the jail (on topics ranging from free will and ethics to politics), Kern has found his students are hungry for ideas, for ways to make meaning of their circumstances—and their ex-



PATEK PHILIPPE
GENEVE

You never actually own a Patek Philippe.
You merely take care of it for the next generation.

Begin your own tradition.



LUX BOND & GREEN
JEWELRY WATCHES GIFTS • SINCE 1898

416 Boylston Street • Boston 617-266-4747
46 LaSalle Road • West Hartford 860-521-3015



Chronograph Ref. 5170J



*Welcome, Harvard
Friends & Family!*

- Complimentary hot breakfast buffet
- Complimentary shuttle service to and from Harvard Square
- Special Harvard Rates



PLUS

"STATUS MATCH NO CATCH® PROGRAM -
Match your ELITE status in any other
hotel loyalty program, FREE of charge"

www.hoteltria.com

617.491.8000 or 866.333.Tria



Independent and Assisted Living
Specialized Memory Care

What do Harvard alumni
have in common?

Cadbury Commons
An Uncommon Senior Residence



The Harvard alumni who chose
Cadbury Commons may have
retired from work, but not from life.

Museum Visits • Play Reading
Symphony Selections • Lecture
Series • Yoga • Organic Gardening

Call (617) 868-0575 to arrange a personal tour,
or visit www.cadburycommons.com



66 Sherman Street, Cambridge,
MA 02140 • (617) 868-0575



COMMENCEMENT & REUNION GUIDE



Nancy Sinsabaugh and Salmagundi
proprietor Jessen Fitzpatrick display
the "ladies top hat."

Hats of Their Own

YEARS AGO, "Happy Committee" member Nancy Sinsabaugh '76, M.B.A. '78, reported for Commencement Day duty at 6:15 A.M. While her male colleagues—in their top hats—entered Tercentenary Theatre "without even showing their tickets," she recalls, the guards kept her back until the gates officially opened to the public at 6:45 A.M.

That never happened again. Seeking equal wardrobe-based authority, Sinsabaugh purchased a crimson-colored "top hat," to which she affixed black feathers and ribbon. Sporting it, she has waltzed into the Yard ever since.

A version of that hat, developed by Sinsabaugh and Boston milliner Jessen Fitzpatrick (salmagundiboston.com), is now available as an option to other committee-women, as well as female Commencement aides and marshals. The wool-felt "ladies top hat," handmade by Fitzpatrick in crimson or black, costs \$138. (That includes a custom-made hatbox and personal delivery and fitting.) "I hope Oprah likes it," Fitzpatrick

says of the 2013 Commencement speaker. "I'd love to make a hat for her, too."

Members of the Committee for the Happy Observance of Commencement usher guests to chairs, answer questions, and otherwise help keep order. Traditionally, the men wear top hats and tails, which "command a certain attention and respect," Sinsabaugh says. The women's regalia has less sartorial presence. It has also changed over the years, amid some contention: the white dress, red sash, and carnation worn in the 1980s, she notes, "made us look like beauty queens." In 2005, women adopted a crimson rosette, usually worn with a black suit or dress. (The new hats would add flair.)

With the women set, for now, some committeemen were inspired to rethink their own options and visit Salmagundi, which has 9,000 artful headpieces, along with bow ties and silk cravats. "But these gentlemen special-ordered the rabbit-fur-felt, silk-finish top hats" from Christys' of London, Fitzpatrick says—at roughly \$500 each. Sinsabaugh calls it "hat envy." ~N.P.B.

Photograph by Stu Rosner

GAIL ROBERTS & TEAM

Vice President
1730 Massachusetts Ave
Cambridge, MA 02138
617 245-4044



Left to right: Margo Delaney, Brian Long, Gail Roberts, Ed Fiejo, Samantha Beatty

THE RIGHT TEAM MAKES ALL THE DIFFERENCE

- No. 1 in New England, No. 7 in North America for Coldwell Banker *
- Highly endorsed by clients and colleagues for exceptional integrity, commitment & performance
- Supporting: US Fund for UNICEF, The Mt. Auburn Hospital, The Huntington Theatre, The Guidance Center, Children's Hospital and Cystic Fibrosis Foundation

617 245-4044 • gail@roberts.org • gailrobertsrealestate.com

The Week's Events



JON CHASE/HARVARD NEWS OFFICE

COMMENCEMENT WEEK includes addresses by Harvard president Drew Faust and media entrepreneur and talk-show host Oprah Winfrey. For details and updates, visit www.harvardmagazine.com/commencement.

TUESDAY, MAY 28

Phi Beta Kappa Exercises, at 11, with poet August Kleinzahler, author of the award-winning *Sleeping It Off in Rapid City*, and orator Linda Greenhouse '68, the Pulitzer Prize-winning journalist. Sanders Theatre.

Baccalaureate Service for the Class of 2013, at 2, Memorial Church, followed by class picture, Widener steps.

Senior Class Family Dinner and Party, at 6. Athletic complex. Tickets required.

WEDNESDAY, MAY 29

ROTC Commissioning Ceremony, at 11, with President Drew Faust and a guest speaker. Tercentenary Theatre.

Kennedy School Commencement Address, at 2, by Geoffrey Canada, Ed.M. '75, L.H.D. '01, president and CEO of the Harlem Children's Zone, followed by a reception at JFK Park.

Senior Class Day Exercises, at 2, with the Harvard and Ivy Orations and a guest speaker. Tercentenary Theatre.

Law School Class Day, 2:30, with lawyer, author, and CNN legal analyst Jeffrey

Toobin '82, J.D. '86, as the guest speaker, followed by a reception. Holmes Field.

Business School Class Day Ceremony, 2:30, with a guest speaker, followed by a reception at 4. Baker Lawn.

Graduate School of Design Class Day, at 4, with speaker Richard Saul Wurman, architect, graphic designer, and creator of the TED conference, followed by a reception. Gund Hall.

Graduate School of Education Convocation, at 3, with civil-rights leader James Meredith as speaker. Radcliffe Yard.

Divinity School Multireligious Service of Thanksgiving for the Class of 2013, at 4. Memorial Church.

Graduate School of Arts and Sciences Dudley House Masters' Reception, 4-6.

Masters' Receptions for seniors and guests, at 5. The Undergraduate Houses.

Harvard University Band, Harvard Glee Club, and Radcliffe Choral Society Concert, at 8. Tercentenary Theatre.

A Special Notice Regarding Commencement Exercises

Thursday, May 30, 2013

Morning Exercises

TO ACCOMMODATE the increasing number of those wishing to attend Harvard's Commencement Exercises, the following guidelines are proposed to facilitate admission into Tercentenary Theatre on Commencement Morning:

- Degree candidates will receive a limited number of tickets to Commencement. Parents and guests of degree candidates must have tickets, which they will be required to show at the gates in order to enter Tercentenary Theatre. Seating capacity is limited, however there is standing room on the Widener steps and at the rear and sides of the Theatre for viewing the exercises.

Note: A ticket allows admission into the Theatre, but does not guarantee a seat. Seats are on a first-come basis and can not be reserved. The sale of Commencement tickets is prohibited.

- Alumni/ae attending their reunions (25th, 35th, 50th) will receive tickets at their reunions. Alumni/ae in classes beyond the 50th may obtain tickets from the College Alumni Programs Office by calling (617) 496-7001, or through the annual Tree Spread mailing sent out in March with an RSVP date of April 15th.

- Alumni/ae from non-reunion years and their spouses are requested to view the Morning Exercises over large-screen televisions in the Science Center, and at designated locations in most of the undergraduate Houses and graduate and professional schools. These locations provide ample seating, and tickets are not required.

- A very limited supply of tickets will be made available to all other alumni/ae on a first-come, first-served basis through the Harvard Alumni Association by calling (617) 496-7001.

Afternoon Exercises

THE Harvard Alumni Association's Annual Meeting convenes in Tercentenary Theatre on Commencement afternoon. All alumni and alumnae, faculty, students, parents, and guests are invited to attend and hear Harvard's president and the Commencement speaker deliver their addresses. Tickets for the afternoon ceremony will be available through the Harvard Alumni Association by calling (617) 496-7001.

—Jacqueline A. O'Neill, University Marshal

COMMENCEMENT & REUNION GUIDE

THURSDAY, MAY 30

Commencement Day. Gates open at 6:45.

The 362nd Commencement Exercises, 9:45. Tercentenary Theatre. Tickets required.

All Alumni Spread, 11:30. The Old Yard. Tickets available at annualmeeting.alumni.harvard.edu.

The Tree Spread, for the College classes of 1919 through 1962, 11:30. Holden Quadrangle. Tickets required.

Graduate School Diploma Ceremonies, from 11:30 (time varies by school).

GSAS Luncheon and Reception, 11:30 to 3. Gropius Lawns, behind Perkins Hall, 35 Oxford Street. Tickets required.

Alumni Procession, 1:45. The Old Yard.

The Annual Meeting of the Harvard Alumni Association (HAA), 2:30, featuring a welcome from HAA president Carl F. Muller '73, J.D.-M.B.A. '76; Overseer and HAA director election results; Harvard Medal presentations; and speeches by President Drew Gilpin Faust and Commencement speaker Oprah Winfrey. Tercentenary Theatre.

Medical and Dental Schools Class Day Ceremony, at noon, with speaker Harvey Fineberg '67, M.D. '71, M.P.P. '72, Ph.D. '80, president of the Institute of Medicine of the National Academies.

FRIDAY, MAY 31

Radcliffe Day panel discussion at 10:30. "From Artist to Audience" will be moderated by Diane Paulus '88, artistic director of the American Repertory Theater and professor of the practice of theater; the panelists are Elizabeth Alexander, RI '08, Beverly McIver, RI '03, Mark Robbins, RI '03, and Augusta Read Thomas, BI '91.

Luncheon at 12:30, with a speech by this year's Radcliffe Medal recipient, actor and arts advocate Jane Alexander. Tickets are required. (For additional details on the day's events, including how to register, visit www.radcliffe.harvard.edu.)

For updates on Commencement and College reunion events, visit www commencementoffice.harvard.edu, or the website of the Harvard Alumni Association, <http://alumni.harvard.edu/haa>.

The Harvard Information Center, Hologoke Center, is open every day except Sunday, 9 to 5 (telephone: 617-495-1573).

Custom-designed Team Building & Leadership Development Programs



Create Positive & Lasting
Change for your Organization



THOMPSON ISLAND
OUTWARD BOUND PROFESSIONAL

(617) 328-3900 ext. 114
eharris@thompsonisland.org
www.thompsonisland.org



2013 Commencement & Reunion Guide

Go to www.harvardmagazine.com/commencement
for a complete schedule and live coverage of events.

brought to you online by



The
HARVARD
ALUMNI CARD

Square Newbies

Something old, something new



The Sinclair

MICHAEL YOUNG/STOCK DOWNFIRE.COM



PARK



CONNIE MILLER

THE SQUARE's restaurant scene has welcomed more than six newcomers within the last year, with others set to open soon.

The boldest addition is The Sinclair (52 Church St., 617-547-5200; sinclair-cambridge.com), which opened in January. The two-story, higher-end gastropub shares a wall with its sister business, a nice-sized live-music club (max. 525 people) with great acoustics, where a mix of veteran and emerging artists can shine.

The dining zones have the spare yet comfortable feel of a rehabbed, circa 1930s, warehouse: exposed girders and concrete pillars amid wooden tables with iron legs and single-bulb-style lighting. Liquor bottles line the bar's shelves, just as they did back when a belt of scotch on the rocks, with a twist, might have constituted the "fancy cocktail." That said, The Sinclair's specialty drinks *are* supremely made; even the Shirley Temple has house-made grenadine.

Of the food, the small plates are best. Try the feverishly good "Disco Fries" (\$9), waffle-cut potatoes with poblano peppers, hot cheese sauce, and specks of chorizo, or the healthier, and just as tasty, kale salad (\$9): ribboned greens tossed with sunflower seeds and raisins in a lemony dressing. The



entrées, more predictable but also delicious, range from the grilled portobello burger (\$13) to the steak frites (\$25). Quick credit goes as well to the staff: they put on no airs, and appear glad to be there.

The large and often bustling PARK (59 JFK Street, 617-491-9851; parkcambridge.com) takes its name from an invitation to stay awhile: as in "park your rears" on the cushy red-leather bar stools or comfy, tufted, gentlemen's club couches and chairs. There are four distinct dining areas, each a polished stage set. The purchased patina may irk some—it lacks the charm of true eccentricity or age. But let's give PARK's owners (who also run Grafton Street, Russell House Tavern, and Temple Bar) points for trying.

The menu has homey classics beloved by many Americans. Bacon, cheese, and butter reign, in various yummy forms. Starters include honey-glazed chicken wings (\$9) and clam chowder (\$6), while the dinner of slow-roasted brisket (\$18) satisfies, as does the very cheesy mushroom risotto (\$17).

The Boat Club (49 Mount Auburn St., 617-349-1650) is a more intimate place. One room holds a sprinkling of wooden tables and chairs with a long bar that's nicely uplit to foster relaxation or even romance. (We would chuck the TVs—they corrode the natural sweetness of the place.) The heavenly sausage and mash with crispy onions (\$10), super-fresh fish and chips (\$14), and lamb-lovers' shepherd's pie (\$12) lend a British theme to an otherwise American pub menu.

Across the Square, the Japanese eatery Osushi (One Eliot Street, 617-945-9450; osushiboston.com) revels in dark lighting and a red-and-black décor befitting an Asian-themed film noir. Booths suit couples "looking to loosen up via the sake

COMMENCEMENT & REUNION GUIDE

train,” the website notes, while “harried hotel guests” can eat (and then run) at the bar. Take your pick. High-quality tempura and fresh sushi and sashimi, along with specialty rolls like the “Godzilla” of salmon, deep-fired yellowtail, kanikama, vegetables, and tobiko (\$13), are available to all.

For exceptional Italian food, head just north of the Square to Giulia (1682 Massachusetts Ave., 617-441-2800; giuliasrestaurant.com). Chef E. Michael Pagliarini and his wife, Pamela Ralston, have created a warm neighborhood bistro (candles, small tables, and low noise levels) where the slow-cooked food seems spiked with a splash of love.

Try the artichoke and smoked mozzarella *spiedini* (kebabs) with pickled onion and mint (\$3), the escarole hearts and radicchio salad with white beans and slices of orange in an anchovy vinaigrette (\$10), or the house-made lamb sausage (\$18) accompanied by bitter greens and *gigantes* (Greek beans). There are no wrong moves here. And dessert hounds should order the chocolate terrine with toasted coconut gelato and salted almonds (\$8).

Less handcrafted is the atmosphere at a second Italian entrant, Toscano (52 Brattle St., 617-723-4090; toscanoboston.com), which replaced Café of India. Wisely kept were the façade’s wonderful large windows to the street: they now help offset a weighty (but still comfortable), faux-fancy décor heavy on wood paneling, carved doors, and exposed brick walls.

A lighter hand seems to run the kitchen, however, which turns out very good, well-balanced food, such as sea bass fillet with white wine, rosemary, and lemon (\$28), and a chicken breast stuffed with prosciutto and fontina cheese in a tomato cream sauce (\$24).

Still to come: Alden & Harlow in place of the local landmark Casablanca, which ended its more than 50-year run in December. (The Bogart and Bacall murals are now at the Brattle Theatre.) Also new to Brattle Street will be a not-yet-named “urban, hippie-style” brasserie (according to owners) set to offer robust carnivorous and vegetarian fare, along with live jazz, blues, and world music.

As Heraclitus noted, change is the only constant. When it comes to food, we can only hope that’s good. ~N.P.B.



Be Social

at NORTH HILL

With a NEW Creative Arts Center, NEW dining spaces, NEW salon, NEW shared spaces and amenities, spending time with friends is more enjoyable than ever. The next evolution of senior living includes even more opportunities to live an unparalleled life. And our newly redesigned residences are even more spacious and inviting. Be ready to make your next move the best one yet. Schedule a tour today.

25+ NEW AMENITIES
Now Open - Visit Us Today

www.TrueNorthEvolution.org/Harvard
CALL TODAY 888-699-9577



True North
Vibrant Living at North Hill



The only way to make graduating from Harvard more memorable, is to share your joy with others over spectacular French food.

Reservations for lunch and dinner now being accepted

8 Holyoke St., Cambridge MA • (617) 497-5300

The Builder's Art

A sidewalk-superintendent's report

THE BEST SHOW in Cambridge-campus construction is (sadly for gawkers, happily for art connoisseurs) entering its final act. Nothing in a sidewalk superintendent's recent memory compares to the fiendishly complex wholesale redoing of the Fogg Art Museum into the new, three-in-one Harvard Art Museums complex, on the tightest of sites. From the removal of the Busch-Reisinger wing, on Prescott Street, to the propping up of the Fogg's Quincy Street façade, to the excavation underneath to carve out wholly new subterranean floors, this mega-project has had it all.

Who knew that crowning the building with an enormous, angled glass bell that links the remaining old structure to the entirely new one facing Prescott would in fact present some of the best watching during the whole, multiyear spectacle? For months, workers hoisted steel frames skyward, assembling them into something whole in the air, and then fitting hundreds of panels of German glass to enclose new art study centers and the conservation lab atop the complex. From street level, the tiny figures above—in fluorescent vests, with safety harnesses and ropes, atop a ziggurat of ladders extending diagonally

up the rising new roofline—have provided a constant drama of finesse and derring-do. (Crane operators, by the way, ought to be automatically certified for brain surgery or other tasks involving exquisite motor skills and split-second teamwork.)

The return of snow to New England's winter this year (see photos)—particularly in the form of a prodigious early-February blizzard—posed challenges that the contractors had been able to avoid previously, during more clement weather. The construction tarping that wraps the superstructure protectively had to be tied down; loose materials stowed; and crane booms secured. On the Sunday following the storm, laborers shoveled off the roof to make it safe, and work resumed as normal Monday morning.

Harvard Art Museums has announced that reopening is still scheduled for the fall of next year, heralding an end to heavy construction much sooner than that.

But the University's new frontier—in construction, as in other ways—



Winter aerial views of the Harvard Art Museums project; the glass crown joins old (left) and new (above) sections. Below, Tata Hall, across the river, under wraps beckons: Allston. Tata Hall, a new executive-education residence at Harvard Business School (HBS), is rising rapidly. No sooner will that job wrap up than Kresge Hall comes down (a twofer: demolition preceding construction) to make way for the

successor Ruth Mulan Chu Chao Center, and then renovation of Baker Hall—resulting in expansion and modernization of the entire executive-education section of the campus. More HBS building plans (a new auditorium, a new faculty and administrative building) are already on file with Boston development authorities.

And looming larger still is the University's fast-track plan to relocate the School of Engineering and Applied Sciences to the Allston science-complex site, just across Western Avenue. There, the enormous foundation on which work had to be suspended in 2010 awaits an ambitious research and teaching complex that will usher in the first real phase of Allston's long-awaited academic future. (It will also play the useful role of stabilizing the foundation, which needs the counterbalancing weight of a building on top, soon.) Although the less-congested site will perhaps pose fewer logistical challenges than those the art museums' contractors faced, it will provide more than enough reasons for hard-core amateur construction superintendents to cross the Charles—an advance guard, so to speak, for the professors and students who will be joining the HBS cohorts there later this decade.



LES VANTS AERIAL PHOTOGRAPHS



HARVARD MAGAZINE/UC

How do you build a world-class museum?

Ask Skanska.



Harvard Art Museums, Cambridge, MA

At Skanska, we are continually looking for better ways to perform our work. Motivated by innovation and technology, we are pushing the boundaries to bring clients solutions that save time and money, increase efficiency or simply make work more effective. Promoting innovation not only improves the way we deliver projects, it helps our clients achieve their goals. Always on the forefront, Skanska is reinventing how projects get built.

To learn more about Skanska's innovative projects in Boston, visit www.usa.skanska.com/boston.

SKANSKA

www.usa.skanska.com/boston

shop HARVARD SQUARE



Throughout its long history, Harvard Square has played a special role in the Harvard community, and it continues to do so year after year.

That is why each spring and fall *Harvard Magazine* dedicates several advertising pages to showcase the business members of the Harvard Square Business Association.

We invite you to support these local businesses and family-owned retailers, to ensure that the Square continues to thrive.

Spring & Summer Events in Harvard Square



- 5/5 30th Annual Mayfair
- 5/5 Cinco de Mayo
- 5/12 Mother's Day
- 5/30 362nd Harvard Commencement
- 6/1 Cambridge's Riverfest Celebration
- 6/8 Jose Mateo's Dance for World Community Festival in Harvard Square
- 6/9 Patio's in Bloom Kickoff
- 6/16 Father's Day in Harvard Square
- 6/22 6th Annual Make Music Harvard Square
- 6/23 Tory Row 5K Road Race
- 7/5-8/31 Think PINK, Drink PINK, Shop PINK Kickoff
- 7/14 Bastille Day

HarvardSquare.com

THE HARVARD SHOP

Come visit us at our two Harvard Square locations



Harvard Engraved Chair
Hand-painted gold beading, personally engraved, beautiful laquer finish. Solid hardwood maple.

Official Harvard Class Ring

Custom engraved. Custom crafted for Harvard University, the motifs for the design of the Student-Sponsored One Ring are based upon the University's most cherished traditions and distinguished history.



52 JFK Street, and
Holyoke Center at 1350 Mass. Ave.
617-864-3000

www.TheHarvardShop.com



(617) 792-0500
www.24hourscare.com



LIB
ISB
LYCÉE INTERNATIONAL DE BOSTON
INTERNATIONAL SCHOOL OF BOSTON

LYCÉE INTERNATIONAL DE
INTERNATIONAL SCHOOL OF
BOSTON

Equip your child to
see things differently

We Teach the World

To learn more, call 617.499.1459
or visit www.isbos.org

45 Matignon Road | Cambridge, MA 02140

ISB is accredited by NEASC (New England Association of Schools and Colleges), CIS (Council of International Schools), MEN (French Ministry of Education) and IB (International Baccalaureate).

GIVE EXQUISITE
CHOCOLATES

EVELYN & ANGEL'S
Fine Candies • Roasted Nuts

1702 MASS. AVE., CAMBRIDGE, MA 02138
btw HARVARD-PORTER Sq.)

f t EvelynandAngles

www.CambridgeUSA.org

CAMBRIDGE

look smart be smart

CAMBRIDGE
OFFICE FOR TOURISM
617.441.2684 / 800.842.5478

shop cambridge style

f t

www.harvardmagazine.com/harvardsquare



Michelangelo

Sacred and Profane

Master Drawings from the
Casa Buonarroti

April 21–June 30

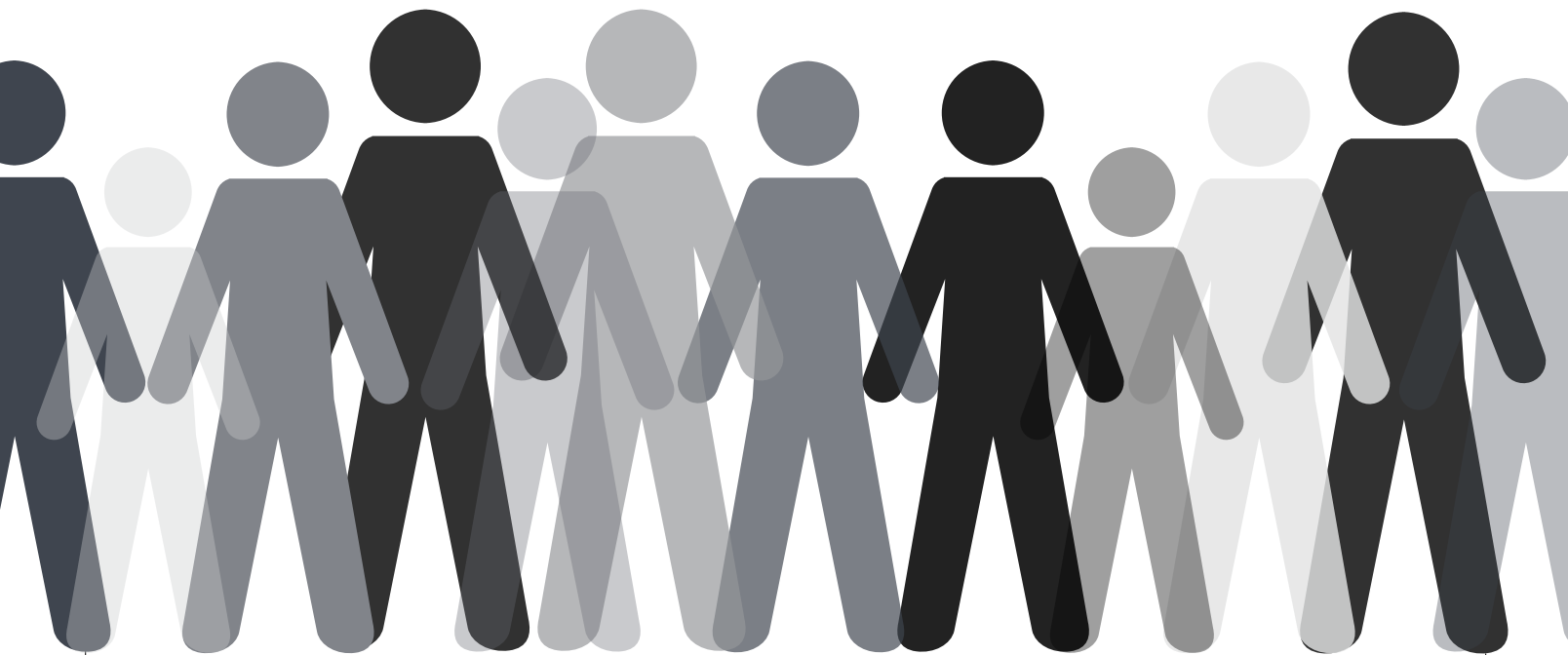
A once-in-a-lifetime
opportunity to see rare works
from the Renaissance master's
own collection.

Museum of Fine Arts Boston mfa.org

every day
a new **mfa**

Michelangelo Buonarroti, *Cleopatra* (detail), no date. Black chalk. Florence, Casa Buonarroti, inv. 2 F. Organized by the Muscarelle Museum of Art at The College of William & Mary in Virginia.

Sponsored by **Bank of America** 



Black, White, *and* Many Shades of Gray

Randall Kennedy probes
the “variousness” of
charged racial issues.

by CRAIG LAMBERT

IN *The Bridge: The Life and Rise of Barack Obama*, David Remnick relates a story from Obama’s first year at Harvard Law School, when he registered for “Race, Racism, and American Law,” a course taught by Randall Kennedy, now Klein professor of law. “Kennedy had caused some controversy, writing critically in *The New Republic* and elsewhere about some aspects of affirmative action,” Remnick relates. “At the first class, Obama [J.D. ’91] and [his friend Cassandra] Butts, [J.D. ’91] watched as a predictable debate unfolded between black students who objected to Kennedy’s critique and students on the right, almost all white, who embraced it. Obama feared a semester-long shout-fest. He dropped the course.” Thus Kennedy never taught the future president, although he did instruct Michelle LaVaughn Robinson [subsequently, Obama], J.D. ’88, who also did research for him.

A “semester-long shout-fest” may be hyperbolic, but Kennedy admits, “Yes, those classes were very contentious. I structured them that way.” It wasn’t hard: Kennedy, an African American himself, consistently introduced the kinds of racial issues—such as “reverse discrimination” against whites—that explode like hand grenades in an interracial classroom. “Should there be a right to a multiracial jury?” he asks, smiling. “Boom!”

Kennedy is “the kind of professor who thrives on iconoclasm, defying the embedded expectations of his students,” according to one of them, Brad Berenson, J.D. ’91, a member of the White House Counsel’s Office under George W. Bush and now a vice president of litigation and legal policy at General Electric. “Whether this comes from Randy’s convictions, or from playing devil’s advocate, it makes him hard to pin down or characterize. He’s a great example of the inquiring mind of an academic, someone who is willing to question dogmas and encourage his students to do the same.”

The interaction of race and legal institutions is Kennedy’s niche. This is how he describes the approach he’s used in his classes and five books: “Here’s this deep, complex, troubling, anxiety-producing subject. Let’s really go at it. Let’s not be afraid of it.

Let's turn it over and take a look at what your opponents have to say. There were people who believed slavery was a positive *good*, and that segregation was a positive good. Who were they? Let's really be precise, let's not just condemn them and laugh at them, but understand them, get in a position where you can state very clearly what their point of view was. You might end up condemning it, but let's understand it first....I take strong positions, but I also try to be attentive to the complexity of things."

"Randy Kennedy is one of the most searching, open-minded, critical scholars of law in any subject," declares Martha Minow, dean of the law school. "The great thing about his work is that you can never predict where he will end up—on racial justice, he sometimes seems conservative, sometimes liberal. In his field of race and the law, he is unique in the legal academy. I don't know anyone else who has his commitment to pursuing the truth about controversial issues to wherever it goes."

FOR EXAMPLE, Kennedy's first book, *Race, Crime, and the Law* (1997), bluntly acknowledges a fact that many liberals would prefer to ignore or explain away: blacks commit a lot of crimes. Although he clearly describes the prejudicial association of criminality with black skin in the United States, he also unblinkingly reports that "a notably large proportion of the crimes that people fear most—aggravated assault, robbery, rape, murder—are committed by persons who happen to be black."

Yet he also concludes that black citizens are *undercounted* as victims of crime, and that "the principal injury suffered by African-Americans in criminal matters is not overenforcement but underenforcement of the laws." This is because, "Like many activities in America, crime tends to be racially segregated; four-fifths of violent crimes are committed by persons of the same race as their victims. Hence, behind high rates of blacks perpetrating violent crimes are high rates of black victimization. Black teenagers are nine times more likely to be murdered than their white counterparts....One out of every twenty-one black men can expect to

"I'm against tyranny. Tyranny can sometimes take a legal form, but it can also take the form of custom, or habit. People find themselves subject to all sorts of tyrannies, small and large."

be murdered, a death rate double that of American servicemen in World War II." Even so, African-American criminals draw far more attention than their black victims.

Two major themes run through Kennedy's work. The title of his 2011 book on racial politics and the Obama presidency, *The Persistence of the Color Line*, summarizes the first. "The race question has been a deep issue in American life since the beginning and it continues to be a deep, volatile issue," he says. "I've been most concerned about showing racial conflict as it affects the legal system, but you can also analyze how it manifests itself in literature, movies, patterns of dating and marriage, or housing."

The second theme is that much commentary on race "can be

boiled down to two schools of thought: optimistic and pessimistic. The pessimistic school believes that 'We shall *not* overcome'—racial animus and prejudice are so deeply embedded that they will never go away. Thomas Jefferson, Abraham Lincoln, and Malcolm X fell into the pessimistic camp. The optimists, in contrast, feel that, notwithstanding the depth and horror of oppression, there are resources in American society that, deployed intelligently, *will* allow us to overcome. I put myself in that camp, along with Frederick Douglass, the great [nineteenth-century abolitionist] Wendell Phillips [A.B. 1831, LL.B. 1833], and Martin Luther King. I hope I don't turn away from the horror, but also hope I try to be attentive to the real fact of change in American life."

Kennedy's books typically start with, and remain rooted in, history and an inventory of pertinent facts. This may reflect his legal training, with its emphasis on precedents and evidence. "My first approach to any subject is to seek a mastery of its history—where did this come from?" he says. His lawyerly habits also impel him to spend a lot of time investigating cases, "stories based on fact." Facts, he says, are "complex, mixed, and really quite stubborn. If you are really attentive to facts, that makes you accepting of complexity."

His most famous book, *Nigger: The Strange Career of a Troublesome Word* (2002), opens with a 52-page compendium of occurrences of the titular epithet, from crude jokes to usage by politicians like Harry Truman and Lyndon Johnson, as well as reports from Richard Wright and Dick Gregory, hate mail received by Henry Aaron as he closed in on Babe Ruth's home-run record, and the hilarious, iconoclastic comedy of Richard Pryor, whose "single best performance," Kennedy writes, appears on *That Nigger's Crazy*, winner of the 1974 Grammy Award for best comedy album.

Nigger describes how courts have handled the word, as well as the pitfalls that can accompany efforts to ban, censor, or suppress its use. Kennedy's premise here, as elsewhere, is that Americans are better off dragging the troublesome word out into daylight and exploring how it really functions in discourse—as a racist slur, to be sure, but also as a term fraught with irony or, among some blacks, as a jocular expression of solidarity, even affection. For Kennedy, *nigger* does not mean only one thing; a word's meaning, he says, always depends on the context and manner of its use, the speaker, and the speaker's intentions.

"I'm against tyranny," he says. "Tyranny can sometimes take a





legal form, but it can also take the form of custom, or habit. In all my books you'll notice I use a very wide range of labels for racial groups—for example, *black*, *African American*, *Negro*, or *colored* for black Americans. I do it partly to avoid word echoes, but another reason is that people get stuck, they get hemmed in. Somebody tells them, 'You're supposed to say *black*.' But they don't know anything about the history of the terminology. People find themselves subject to all sorts of tyrannies, small and large. Frankly, the more you learn, the more you recognize the variousness of things."

Nigger became a bestseller, but "the variousness of things" has made scant impression on those who adhere to a binary, either/or perspective on the taboo word. "I still get e-mails every day about that book," Kennedy says. "I've never been more harshly criticized. The book tour was wild and woolly: in Santa Monica, a guy started running down the aisle at me; some people jumped him before he got to me. People got really angry. But they would have their say, and I felt privileged to have my say. I wrote back and talked with some of those who were very tough on me, and I learned a lot.

Randall Kennedy at the table where he does his research in the reading room of Harvard Law School's Langdell Library

When hate mail came in, I'd put it in envelopes, and it is now part of the Harvard Law School collection." His one regret about *Nigger* is that "it's the shortest book I've written, and the one most closely associated with my name. When I die, I can imagine the obituary: 'Randall Kennedy, author of *Nigger*'—and nothing else. I only wish that some of my other books, on which I've spent a lot more time, had received the same attention that one did."

His longest book and his personal favorite, *Interracial Intimacies: Sex, Marriage, Identity, and Adoption* (2003), is a searching exploration of intimate relations—sex, love, marriage, parenthood, adoption, and more—between people of different races (see "Race, Sex, and Love," March-April 2003, page 11). It's another example of Kennedy's penchant for placing a racially charged subject at center stage. "The stories in it are so gripping," he says. "And it has had the most influence on people. I constantly get e-mails about it,

particularly concerning interracial adoption. Some adoptive parents who wanted to adopt a child of a different race took encouragement from reading the book, and it's been used by lawyers fighting for people who've been stifled by anti-interracial adoption policies."

The book gives a comprehensive account—it is nearly 700 pages long—of the history and legal consequences of racial intermingling. For example, at various times, 42 U.S. states have outlawed miscegenation but, as Kennedy writes, in "the aptly named United States Supreme Court decision" *Loving vs. Virginia* (1967), the high court invalidated all state antimiscegenation statutes. "I'm against any laws that limit interracial intimacy," he declares. "I'm part of the love camp: however it sprouts, I'm in favor of that."

Kennedy favors interracial adoption on similar grounds. This stance puts him at odds with those—like the National Association of Black Social Workers—who believe that adopted children should be matched with parents of the same race for reasons such as the absorption of racial identity. He objects. "Race matching is a destructive practice in *all* its various guises, from moderate to extreme," he writes in *Interracial Intimacies*. "It ought to be replaced by a system under which children in need of homes may be assigned to the care of foster or adoptive parents as quickly as reasonably possible, *regardless* of perceived racial differences. Such a policy would greatly benefit vulnerable children. It would also benefit American race relations."

ON THE OTHER HAND, Kennedy defends the prerogative of members of racial groups to, so to speak, hang out together. The underlying commitment is to freedom of self-expression, and preventing the law from needlessly limiting it. In *Sellout: The Politics of Racial Betrayal* (2007), he wrestles with the problem of racial solidarity and the incentives that operate for or against it. For example, was W.E.B. Du Bois, A.B. 1890, Ph.D. 1895, a man who desired to escape his Negro heritage and join the privileged white race, as Marcus Garvey declared? Does Justice Clarence Thomas's marriage to a white woman signify a rejection of black America? Are black police officers or African-American corporate attorneys somehow disloyal to their communities?

"Every group—I don't care if it's a religious order, a union, or a political party—has an anxiety about selling out," says Kennedy. "It's a fear of group betrayal. The United States of America is a group, a nation-state. What is the only crime defined in the U.S. Constitution? *Treason*: in other words, group betrayal. I wanted to ask how this figures in black American life—in the ages of slavery, segregation, the civil-rights era, and today.

"This kind of anxiety is potentially extremely destructive," he continues. "Demagogues can very easily exploit it, for example. Think about the various 'red scares' in American history—if you're *criticizing* America, does that mean you're an *enemy* of America? Marginalized groups are under siege, so they have to be especially attentive to, and concerned about, subversion from within. Unfortunately this can create a type of runaway solidarity—it can easily cause people to swallow heretical ideas for fear of being viewed as traitors. Every group is concerned about subversion, and they *have* to be—there is such a thing as treason. Yet anxiety about treason can lead to excessive conformity and an undue degree of group solidarity."

There are places, Kennedy feels, when it does make sense to

treat individuals as members of a racial category. One of these is the subject of his next book, *For Discrimination: Race, Affirmative Action, and the Law* (forthcoming in September from Pantheon). It begins with the history of affirmative action: "No matter where you come out on the issue, you will learn about the pertinent developments," he says. This isn't plowing new ground; Kennedy paraphrases Samuel Johnson ("one of my favorites") to the effect that novelty is overrated: "People are more in need of being reminded of things than being told something some author thinks is novel."

He argues for affirmative action on several grounds, and criticizes Barack Obama's discussion of the issue in his 2006 campaign manifesto, *The Audacity of Hope*. "His definition of affirmative action was one that got rid of all the dilemmas that affirmative action poses—no one's going to have to pay a cost! But the reason why people fight over it is that, yeah, there's a cost to be paid. As an electoral politician, he doesn't want to lose voters, so the word 'reparations' never came out of his mouth. Reparations really rub a lot of Americans, particularly white Americans, the wrong way. But in its origins, in the late 1960s, affirmative action was a type of reparative justice—that was the primary moral impetus behind it."

Kennedy adduces other arguments for the policy, like the integration of institutions. "People ask, 'What about the relatively new immigrants to the United States? These people weren't subject to Jim Crow segregation—where do they get off getting affirmative action?' Well, even if they weren't, maybe these institutions don't want these people to be outsiders; they might want to integrate them into the main forms of American life. There's also a 'diversity' justification, which I think is valid, although claims made on behalf of it are sometimes exaggerated. I also bring up and push the criticisms. I don't want anybody reading my book to go away saying, 'Kennedy avoided a good criticism of the position he embraces.'" (*For Discrimination* focuses much of its attention on higher education. Regarding the current Supreme Court case on affirmative action, *Fisher v. University of Texas*, Kennedy says, "They are likely to reverse the lower court, I think, on rather narrow grounds. I don't think the Supreme Court is going to ban affirmative action, but they will further constrain it, and I don't like that. Nor do I like the Court's constitutional doctrine: the Court makes no distinction in form between *malign* discrimination and *benign* discrimination. That's stupid. The law should recognize that difference and treat them very differently.")

KENNEDY WAS BORN in Columbia, South Carolina, but his family moved to Washington, D.C., when he was four. Parents Henry and Rachel Kennedy had two boys and a girl, all of whom went to Princeton and became lawyers. ("It was a case of 'follow the leader,'" Kennedy explains. "My brother had such a good experience there, and my parents were happy about that.") Older brother Henry H. Kennedy Jr. is now a retired U.S. District Court judge for the District of Columbia; younger sister Angela Kennedy Acree is a public defender in Washington.

The name of Thurgood Marshall "was very present" in the family home; in those years Marshall, a National Association for the Advancement of Colored People (NAACP) lawyer known as "Mr. Civil Rights," roamed the South trying cases. In the 1940s, South Carolina was a one-party state in which the Democratic primaries

were closed to black voters. Kennedy's father, a postal worker, went to court to see Marshall contest those party rules. "My father never talked about the legal issues," Kennedy recalls. "Foremost in his mind was the fact that the judges and other lawyers in the courtroom called him *Mister Marshall*."

"We had wonderful parents," Kennedy says. "They did not push us into law. But they sat on you really hard—discipline, chores—until you were about 12, and then took a step back, feeling they'd set the foundation. There was only one rule: you had to find something about which you were going to be passionate."

Kennedy emulated his older brother by finding a passion for competitive tennis. "My parents always knew where I was—down at the courts," he says. He became an accomplished player and won a scholarship—based on financial need, academic achievement, and tennis prowess—to the St. Albans School: "the formative intellectual experience of my life." In particular, history teacher (and later St. Albans headmaster) John F. McCune introduced Kennedy to the major historians—such as Richard Hofstadter—"and got me interested in being a serious intellectual."

Princeton, where he majored in American history, was a "wonderful experience," largely because his academic adventure there was such a rich one—"a number of my closest friends are professors I had at Princeton." (He is now in his second term as a Princeton trustee.) Civil War historian James McPherson, who advised his senior thesis (a biography of Hofstadter) had advised his brother's thesis as well. (As for tennis, Kennedy didn't play at Princeton—"I was a total nerd," he says—but he now competes in open tournaments in his age group.)

After earning his bachelor's in 1977, Kennedy left for Balliol College, Oxford, on a Rhodes scholarship, then earned a law degree at Yale in 1982. He served clerkships with Judge J. Skelly Wright of the U.S. Court of Appeals for the D.C. Circuit and, in 1983-84, with Thurgood Marshall himself—by then an associate justice of the U.S. Supreme Court. On one of his final days with Marshall, Kennedy brought his father in to meet the man he had so long admired.

In law school, Kennedy had imagined himself working for the NAACP Legal Defense Fund, following in Marshall's footsteps. But although Kennedy is a member of the bars of Washington, D.C., and the Supreme Court of the United States, he has never practiced law. At a young age he had begun publishing essays in law journals, as well as articles in national periodicals like *Harper's* and *The New Republic*—and during his last year at Yale, then-Harvard Law dean James Vorenberg called him to discuss teaching in Cambridge. Kennedy was eventually hired at the law school in 1984.

His main scholarly focus at the time was campaign-finance regulation, but in 1991, assistant dean Philip Heymann (now Ames professor of law) invited him to take over "Race, Racism, and American Law," a course previously taught by Derrick Bell, who had left Harvard to become dean of the University of Oregon Law School. Kennedy's answer was yes, and he has taught it ever since.

He says he and Bell had a "warm, cordial personal relationship," but "we differed, sometimes harshly, in print." Kennedy would put Bell into the "pessimist" camp on race relations, and that difference surfaced intellectually. Bell excoriated *Race, Crime, and the Law* in a 1998 review that labeled Kennedy an apologist for

a legal system rife with racist biases: "Professor Kennedy has become the impartial, black intellectual, commenting on our still benighted condition and as ready to criticize as commend," he wrote. "When advocates condemn a system that is filling the nation's jails and prisons with legions of young, black men, he responds with the non sequitur that these men are guilty of

"I'm against any laws that limit interracial intimacy," he declares. "I'm part of the love camp; however it sprouts, I'm in favor of that."

many of the crimes that lead to their imprisonment." Kennedy observes, "Derrick thought I was naïve, that I was too impressed by the amount of change that had occurred in American society." Nonetheless, when Bell died in 2011, Kennedy taught Bell's class at New York University Law School the week after his fellow scholar passed away.

Kennedy lives in Dedham with his three children: Henry, a senior at nearby St. Sebastian's School, and 14-year old fraternal twins Rachel and Thaddeus, who attend Noble and Greenough and St. Sebastian's, respectively. St. Sebastian's is a Roman Catholic private school, and both boys have been baptized in that faith. "I'm a secularist, a nonbeliever," their father says, "but I wouldn't encroach on their prerogatives. If the boys have a religious inclination, that's fine." (Kennedy's wife, Yvedt Matory, M.D., a breast cancer surgeon at Brigham and Women's Hospital, died in 2005 at age 48 from complications of melanoma. "I've lived a very charmed life," he says. "My one great tragedy has been the death of my wife.")

KENNEDY IS FULLY AWARE of the privileges he enjoys, from tenure at Harvard to a top literary agent, Andrew Wylie '70 (see "Fifteen Percent of Immortality," July-August 2010, page 44), to the law school's "great cadre of reference librarians who can get you *anything*. In my book I acknowledge every reference librarian. Why? Because I *love* them!" He cherishes his bright, articulate students who critique his ideas, and says he has often learned the most from the conservatives who challenge his premises. Given these advantages, he feels there is "no good excuse for not being systematic, unblinking, and rigorous."

His overarching view is that "the trajectory of black Americans is an extraordinary trajectory. The fact is that 1865 was not that long ago, and at that time the great majority of black Americans were illiterate slaves. From there to now, when the president and attorney general of the country are African Americans, is astonishing. In every important sphere of American life, black people have been absolutely essential, and have accomplished this through an amazing display of collective resilience, persistence, discipline, and an unquenchable optimism. I don't want to be a Pollyanna—I give lectures on lynching, and my last book was called *The Persistence of the Color Line*—but African Americans have been coming on in an extraordinary way." ▢

Craig A. Lambert '69, Ph.D. '78, is deputy editor of this magazine.

John Usher Monro

Brief life of an uncommon educator: 1912–2002

by TONI-LEE CAPOSSELA

IN THE SPRING of 1967, John U. Monro '34 made national headlines—and befuddled Harvard colleagues—by resigning as dean of the College and moving to Miles, a cash-strapped, unaccredited, historically black college on the outskirts of Birmingham, Alabama.

The lifelong New Englander insisted that by going to Miles, where he would direct the freshman studies program and teach writing and social science, he was not making a sacrifice but accepting “a job of enormous reward.” Nevertheless, it was widely assumed that he was either assuaging a bad case of liberal guilt or gathering material for a book—and that either way, his stay would be brief. Then-divinity student Peter Gomes (later Harvard’s long-serving minister in Memorial Church), recalled that “nobody” on campus could understand Monro’s decision “since everyone believed that Harvard was...the only place the Holy Grail might be found, and that if it did happen to be elsewhere, it wasn’t in Alabama.” But Monro confounded the skeptics, moving South for good and teaching at historically black colleges for the final three decades of his professional life.

Doubters might have looked at his record, which demonstrated the same concern for diversity and social justice that eventually propelled him South. As a Harvard senior, he led an insurrection at the *Crimson*, persuading fellow staffers to help him publish a rival daily for almost six weeks. The quixotic undertaking took a heavy toll—only a leave of absence saved him from flunking out—but Monro paid the price willingly; the *Harvard Journal* promulgated more inclusive journalism, based on his belief that education imposed an obligation to participate in the world at large. Unlike the insular, all-male *Crimson*, the *Journal* chose to cover the entire university—it had a Radcliffe section with its own editorial board—as well as local, national, and international news.

As a student journalist, Monro had been part of something capable of significantly affecting society; from then on, he sought out endeavors with the same potential. He continued in journalism, at the Harvard News Office and as a freelancer, until September 1941, when he joined the navy. After the war, he joined Harvard’s Office of Veterans Affairs and helped implement the GI Bill. As early as 1948, he began traveling to recruit black undergraduates; when his own efforts bore little fruit, he joined the board of the new National Scholarship Service and Fund for Negro Students and persuaded Harvard to collaborate in finding and recruiting promising applicants. On campus he backed the creation and approval, in 1963, of the Association of African and Afro-American Students and defended it against objections that it fostered re-segregation, aided by Archie Epps, B.D. ’61, who became one of Harvard’s first

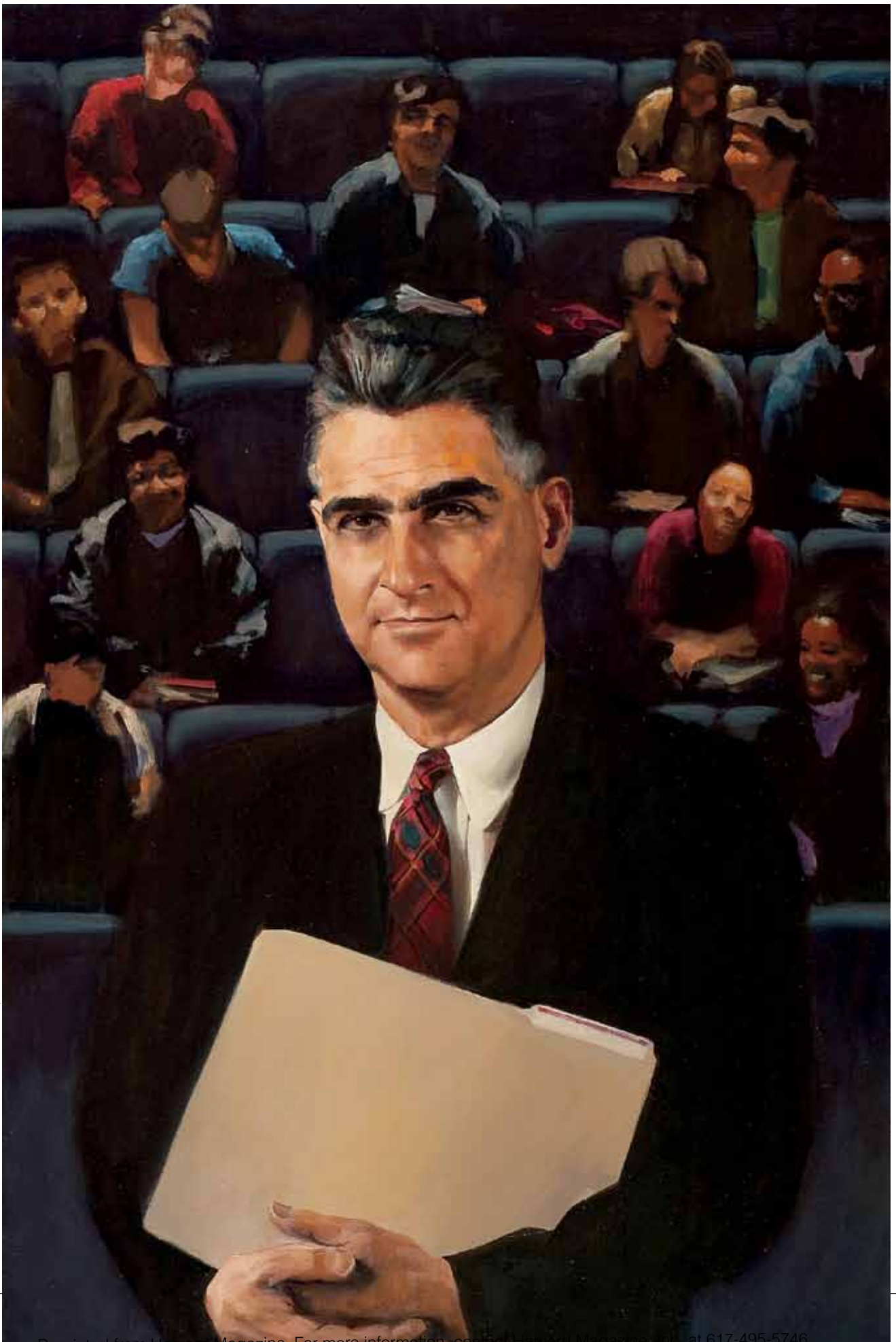
black administrators when Monro made him an assistant dean.

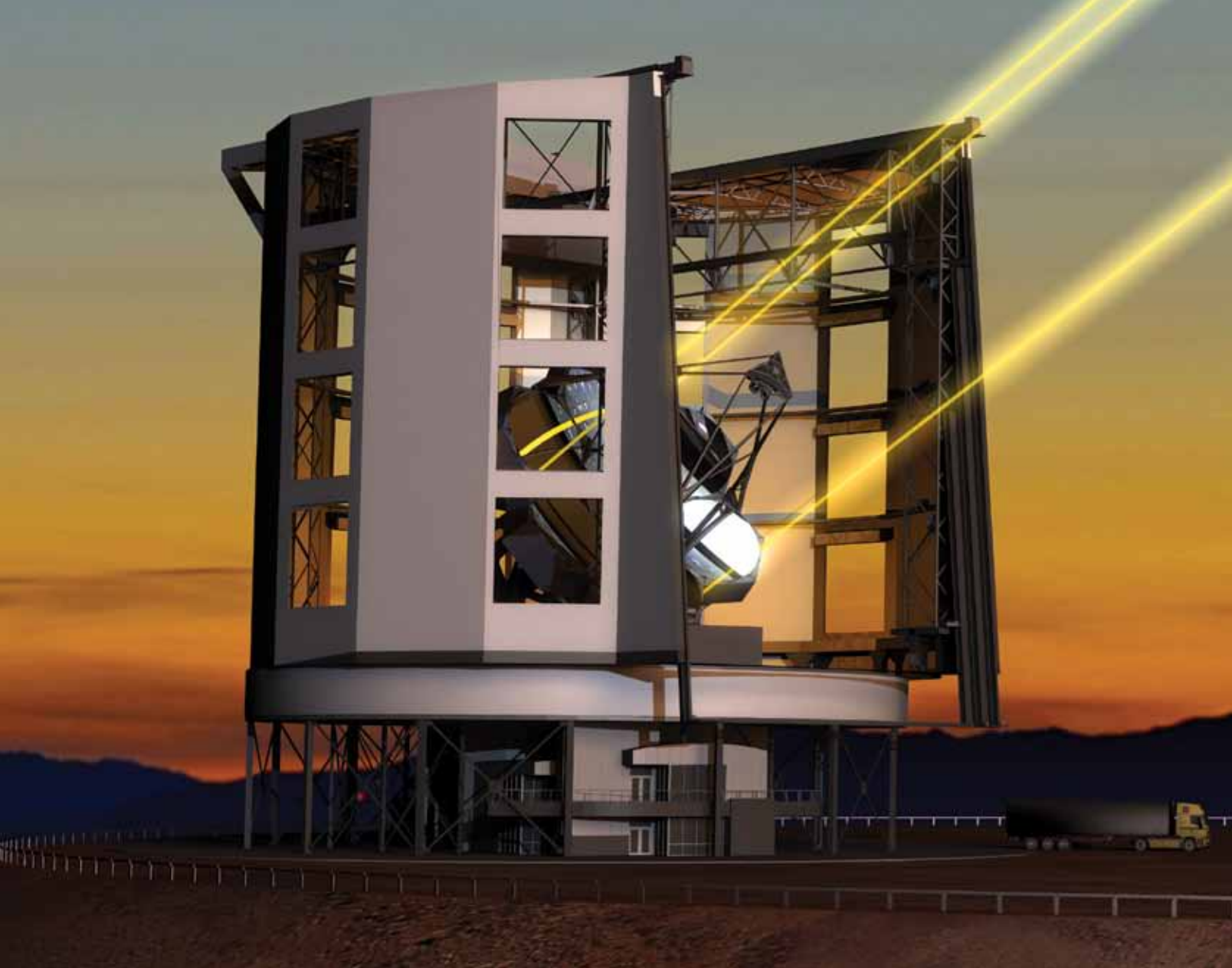
Other disparities troubled Monro as well. Motivated in part by his years as a commuter at Phillips Andover, he helped Harvard’s undergraduate commuters move from the fringes of campus life and obtain their own House, Dudley. At Harvard and beyond, he protested the widespread practice of using financial aid to compete for the best students, having seen his own parents struggle to put three sons through college. After becoming director of financial aid in 1950, he devised a sophisticated formula for more precisely determining student needs; a simplified version, nicknamed “the Monro Doctrine,” was adopted by the College Board and is still used today. And as dean, he championed the newly created Peace Corps: heading its Harvard-based training program, enlisting faculty aid, conducting a one-man exploratory expedition to Nigeria—and handling damage control. When a volunteer’s poorly worded postcard set off an international furor, Monro defended both the volunteer and the corps, using the incident to emphasize why privileged students needed to learn firsthand “what it’s like to live in a country where half the babies are dead before they’re three.”

He met Lucius Pitts, the president of Miles, at a conference in 1962, and they formed a creative partnership, collaborating on a grade-school tutoring project that teamed volunteers from Phillips Brooks House with Miles students and sent them, in mixed-race teams of two, into Birmingham during the summer of 1964, just weeks after three civil-rights activists were murdered in Mississippi. Once he moved to Miles, he convinced a small army of graduate students and young teachers to come South, while arguing simultaneously that black colleges needed black leadership to fulfill their mission as bastions of black institutional strength.

He remained at Miles for a decade, then moved to Tougaloo, another historically black college, where he taught for almost 20 years more. When hearing and memory loss made classroom teaching impractical, he worked in the writing center, collaborating one-on-one with an endless stream of students. Only the symptoms of Alzheimer’s forced him to retire, with great reluctance, at 84. In his class’s twenty-fifth anniversary report, he hinted at the source of his remarkable endurance. “I see education at the heart of our democratic process,” he wrote, “sharing a large part of the task of assuring each young person the chance to develop his own talents and of awakening and strengthening each individual mind and spirit.” ▢

Toni-Lee Capossela is professor emerita at Stonehill College, where she taught writing and directed the Writing Program and the Writing Center. Her biography, John U. Monro: Uncommon Educator, was recently published by Louisiana State University Press as part of its Southern Biography Series.





“WE’LL BE ABLE to see the beginning of the universe as we know it today,” says Charles Alcock, director of the Harvard-Smithsonian Center for Astrophysics (CfA) and professor of astronomy—imaging the radiation signatures from ancient galaxies billions of light years from his hilltop office on Garden Street, near the Radcliffe Quad. Addressing that same frontier, Abraham (Avi) Loeb, Baird professor of science and chair of the astronomy department, characterizes the research as “the scientific version of the story of Genesis.” Closer to home, so to speak, where the quest for “exoplanets” orbiting other stars has accelerated since the first discovery in 1995—and with it the search for chemical signs of life elsewhere—Wendy Freedman, chair and director of the Observatories of the Carnegie Institution for Science, in Pasadena, California, says, “We can now approach it from a scientific standpoint. It’s no longer science fiction.”

These scientists are giving voice to the curiosity that propels astronomy today. As they scan space, pursuing research on a vast

scale—from the evolution of elements from the first simple building blocks (hydrogen, helium, and a trace of lithium) to the formation of stars, planets, and galaxies—they and hundreds of colleagues worldwide are also joined in a terrestrial enterprise: the Giant Magellan Telescope (GMT), an extraordinary instrument that will enable such discoveries. Patrick McCarthy, the astrophysicist who in 2008 became director of the nonprofit organization designing and building the GMT, says of the telescope and its associated analytical instruments, “This is where hardware meets science”—on an enormous scale.

ASTRONOMY is the ultimate observational science. Humans have probably always looked skyward, noting the passage and patterns of the sun, moon, and stars. The eye is the essential instrument, and the subject of study is readily available—overhead. Astronomers cannot manipulate a star in a laboratory, or examine a black hole under a ventilating hood. They observe from afar.

The modern science of course embraces deep theoretical astrophysics, aimed at understanding, for example, how gas and



Seeing Stars

The big science
of building a
giant telescope

by John S. Rosenberg

dust became stars and galaxies distributed across space; Avi Loeb directs the CfA's Institute for Theory and Computation. Closely allied are computer simulations to emulate how those processes might unfold under enormous pressures at extreme temperatures, with unfamiliar conditions of matter and energy and scale. But the theorizing and models remain tethered to data. "Observations are crucial for stimulating the right ideas," as Loeb puts it. The GMT will help confirm or refute theoretical work about the first galaxies, he says. "If we're surprised, it's even for the better."

For those observations, the eye, however elegantly evolved, is inadequate. As Harvard undergraduates learn in Astronomy 100, "Methods of Observational Astronomy," the human pupil's size (half a square centimeter) constrains light-gathering; exposures are limited (blinking); and the eye perceives only the colors of the visible spectrum (electromagnetic radiation with wavelengths from 400 to 700 nanometers). Those features confine observations to relatively bright objects; limit resolution—the measure of blurring or overlapping of images, and hence of the fine details that can be seen—to about one foot at a distance of a mile; and as a

practical matter restrict observation to only as far as a few million light years (a long way at nearly six trillion miles per light year, but barely beyond the windowpane in a universe with stars billions of light years distant).

Galileo's revolutionary telescope of 1609 represented a more than twentyfold gain over the eye's light-gathering area, quickly revealing features of the lunar landscape, multiple stars, and Jupiter's own moons. As Geoff Andersen explains in *The Telescope: Its History, Technology, and Future* (2007), "[R]esolution can only be improved by using shorter wavelengths of light and bigger telescope primaries [mirrors]." Moreover, "[A] larger mirror will collect a greater amount of light, and thus give us brighter images of distant objects and allow us to take images in a shorter amount of time"—the prospectus for telescope-makers ever since Galileo's epochal discoveries in Padua.

The scaling-up of the technology in the four centuries since has brought about gains of more than a million times the eye's collecting area. The Hubble Space Telescope's (HST) 2.4-meter mirror (orbiting above Earth's obstructing atmosphere) resolves a foot-sized object at 36,000 miles (see "Eye on the Universe," July-August 2008,



The GMT as it will appear at Las Campanas Observatory, in Chile; a

detail of the primary and secondary mirrors. Opposite: astronomers Avi Loeb and Charles Alcock at the Harvard College Observatory

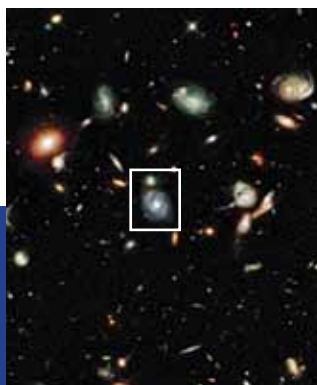
telescope, from London, says of that doubling every 30 to 40 years, “We’re about due for that now.”

OF this doubling, says Buell T. Januzzi ’84, “It’s not quite like cathedral-building, but those who started it won’t use it.” The simile is not as cocky as it might sound.

Conversations about a giant telescope began in 2000—and the current goal is to begin partial operation in 2019, according to Wendy Freedman, who chairs the GMT board of directors. (Board members include the CfA’s Charles Alcock, Clowes professor of science Robert Kirshner, and Smithsonian astrophysicist and lecturer on astronomy Jeffrey McClintock.) Engineering and scientific resources—and several hundred million dollars—

page 31). Unblinking charge-coupled devices (the electronic cameras affixed to telescopes) can maintain an exposure for hours, as photons from faint, distant objects impinge. Far from being bound by visible light, telescopes can be crafted to collect shorter wavelengths (ultraviolet, x-ray, and gamma-ray radiation), as well as longer infrared, microwave, and radio signals—all of which bear useful information. And spectrographic instruments attached to those telescopes can discriminate thousands of times as many colors as the eye alone, yielding data about the composition, condition, and movement of objects incredibly remote and deep in time.

During the twentieth century, telescope apertures grew steadily, says Patrick McCarthy—from the 100-inch Hooker machine at Mount Wilson (1917) to the 200-inch Hale reflector (1948) at Palomar (both Carnegie Observatories projects, in California), to the current champions, with 10-meter mirrors (about 400 inches, assembled from multiple hexagonal elements), deployed at observatories in Mauna Kea, Hawaii, and the Canary Islands in the early 1990s and 2009, respectively. McCarthy, who puts his GMT work in perspective in part by keeping in his office an early-1800s brass library



Conjuring the Cosmos

How DID this story begin? Just after the Big Bang, the universe was “so smooth it was

almost featureless,” as Charles Alcock describes it: an era when there was “no structure, no chemistry, no possibility of chemistry.” How then did it become the “heterogeneous” mix of planets, stars, galaxies, and filamentous structures organized across—and illuminating—space that astronomers study and interpret today? Alcock, professor of astronomy and director of the Harvard-Smithsonian Center for Astrophysics—and a member of the board of the Giant Magellan Telescope (GMT) organization—says scientists are “getting very close to being able to address extraordinarily challenging questions” about those conditions and processes. “Close, but not there.”

Next-generation Earth and orbiting telescopes, he says, should close the gap toward understanding the first stars and

Left: A Hubble Space Telescope image of galaxies 3 billion to 11 billion light years distant. Center and right: Simulations of HST view of M51 galaxy and GMT’s higher resolution

initial, small galaxies—created, according to current theories, when the universe was between a few hundred million and a billion years old. Perhaps half of the recently updated research objectives for the GMT concern queries about distant objects from the early universe. (The telescope will also enhance efforts to answer some of the same questions that rely on examining ancient stellar evidence from the Milky Way and its immediate environs; see “Stellar Archaeology,” page 41).

Among the subjects in which the GMT provides “a qualitative leap forward,” according to Baird professor of science Avi

FROM LEFT: NASA, ESA, G. ULINOWORTH AND R. BOUVIERIS (UNIVERSITY OF CALIFORNIA, SAN DIEGO) AND THE HUBBLE TEAM; CHEN PENG/GMTO. USING MATERIAL FROM DOUGLAS FINKBEINER/HARVARD ASTRONOMY DEPARTMENT

are coming from the 10 members, so far, of GMT's international consortium: Astronomy Australia, the Australian National University, the Carnegie Institution for Science/Carnegie Observatories, Harvard, the Korea Astronomy and Space Science Institute, the Smithsonian Institution's Astrophysical Observatory (Harvard's CfA partner), the University of Texas, Texas A&M, the University of Arizona, and the University of Chicago. The finished project indeed will be cathedral-sized: the mirror assembly and its enclosure will be 22 stories tall—the height of Notre Dame's towers—comprising 1,163 tons of steel and glass and electronics, all moving without perceptible vibration on an oil bearing as the apparatus follows astronomers' targets across the Chilean night sky.

Like galaxies studded across a dark universe, there are clusters of astronomical expertise. Cambridge is one: the CfA's constituents employ some 900 people, including about 350 Ph.D.s in astronomy and astrophysics (not to mention MIT's substantial cohort). Pasadena is another, with the Carnegie Observatories and GMT's headquarters; NASA's Jet Propulsion Laboratory; and Caltech (a member of a different consortium designing a giant telescope for Mauna Kea; yet another consortium is based in Europe). A third is Tucson, home to the University of Arizona.

Early discussions among CfA, Carnegie, and Arizona scientists, partners in varying arrangements in telescopes in Chile and the United States, helped shape the GMT program, recalls Daniel



Fabrizio— a CfA astrophysicist, leading designer of optical and infrared telescopes (a chunk of the raw glass used to make large telescope mirrors sits by his window) and instruments, and member of the GMT scientific advisory board. He recently reviewed initial assessments of everything from optics to the stiffness and

Loeb, a theoretical astrophysicist and chair of the astronomy department, is the formation of the first galaxies. His new book, *The First Galaxies in the Universe*, written with his former student, Steven R. Furlanetto, Ph.D. '03, now an associate professor of physics and astronomy at UCLA, is a graduate-level overview of the theories underpinning the so-called "cosmic dawn," when the universe was initially lit. (For a less quantitative version, see Loeb's *How Did the First Stars and Galaxies Form?*—published in 2010 and the text for his similarly titled Freshman Seminar this spring semester.) As the introduction notes, it is timely because "the next decade or two will bring about a new generation of large telescopes with unprecedented sensitivity that promise to supply a flood of data about the infant universe during its first billion years after the Big Bang," setting up the ideal test of that theoretical work and perhaps even revealing "new physics that has not yet been anticipated."

The galaxies in question were smaller and intrinsically fainter than familiar ones like the Milky Way, and are being sought at

enormous distances. All these features compound the problems of observation: how to distinguish a relatively dim nearby object from a much brighter one much farther away, for example, and to determine their actual distances? With a bigger telescope, Loeb says, "You get better data" and can collect it more productively, in shorter observation runs. Put simply: "You need a large light bucket to collect photons from very faint sources."

As Loeb and Furlanetto write, Earth observatories like the GMT and the James Webb Space Telescope (now scheduled to launch late this decade, about the time when the GMT may begin operating) should together enable imaging and surveying of a "large sample of early galaxies" as well as studying their spectra "in detail"—essential for analyzing the chemistry and energies at play when the universe began to assume its recognizable aspects. The path to the astronomical and astrophysical frontiers thus passes along the course of designing, engineering, and building tools like the GMT and its associated spectrographs and imagers.

wind resistance of the prospective telescope enclosure (the site “is a mountaintop, after all,” he notes). “Everything looked good,” he says—but then again, “Every large optical device comes with a story—usually a sad one” of delays, escalating costs, and struggles to achieve the designed performance. A decade after the GMT analyses, he says, “Everything has a start. It’s the finish that’s hard.” As a result, it’s the rare astronomer who is privileged to work on two generations of leading telescopes, as he has been. Even so, an infrared spectrograph he proposed for use on the GMT won’t be one of the “first-light” instruments built for its first years of operation, and therefore is unlikely to come on line during his active career.

As a scientist, Jannuzi—professor of astronomy and head of the astronomy department at Arizona, and director of its Steward Observatory—may not wish to push the cathedral analogy too far, but creating the GMT has involved three engineering acts of faith.

First, the telescope requires huge mirrors posing unprecedented technical challenges. Second, to operate most effectively, it must be equipped with a system to offset minute atmospheric disturbances of the telescope’s imaging—at thousandth-of-a-second intervals. And finally, the seven separate mirrors, each weighing 18 tons and shaped to minute tolerances, each nestled in a 31-ton steel cell, subject to the telescope’s motion and fluctuating temperatures and changing mountaintop winds, must be kept precisely aligned with one another. The first and second of those problems fell to the experts in Tucson.

● *The mirrors.* “We have only two sizes,” says J. Roger P. Angel, scientific director of the Steward Observatory Mirror Lab (SOML), “big and medium.” During a tour of the lab, nestled under the steeply raked east side of Arizona Stadium (“Home of the Wildcats”), Angel, Regents Professor of astronomy and optical sci-

Exploring Exoplanets

Is THERE LIFE beyond Earth? Likely no question excites greater lay interest in space science. Answering it requires astronomers to find planets (not simple, because stars are big and bright, their satellites small and dim) and then char-

acterize them (in the habitable zone—neither too hot nor too cold for liquid water—with a sheltering atmosphere, and probably a rocky composition rather than a gaseous one like Jupiter’s).

In fact, during the past 10 years—following discovery of the first exoplanet, orbiting 51 Pegasi, in 1995—“We’ve learned how to detect large gas planets” quite competently, says professor of astronomy David Charbonneau. During the next decade, he says, astronomers should move ahead on “detecting and characterizing analogs of Earth.” If that occurs, Harvard astronomers, and their Smithsonian observatory colleagues at the Center for Astrophysics (CfA), in Cambridge, will play a large role. “We have the strongest observational exoplanet group,” says Baird professor of science Avi Loeb, chair of astronomy. In fact, he says, “It’s quite likely we’ll find an Earth analog in the next year.”

The astronomical advances made to date, and

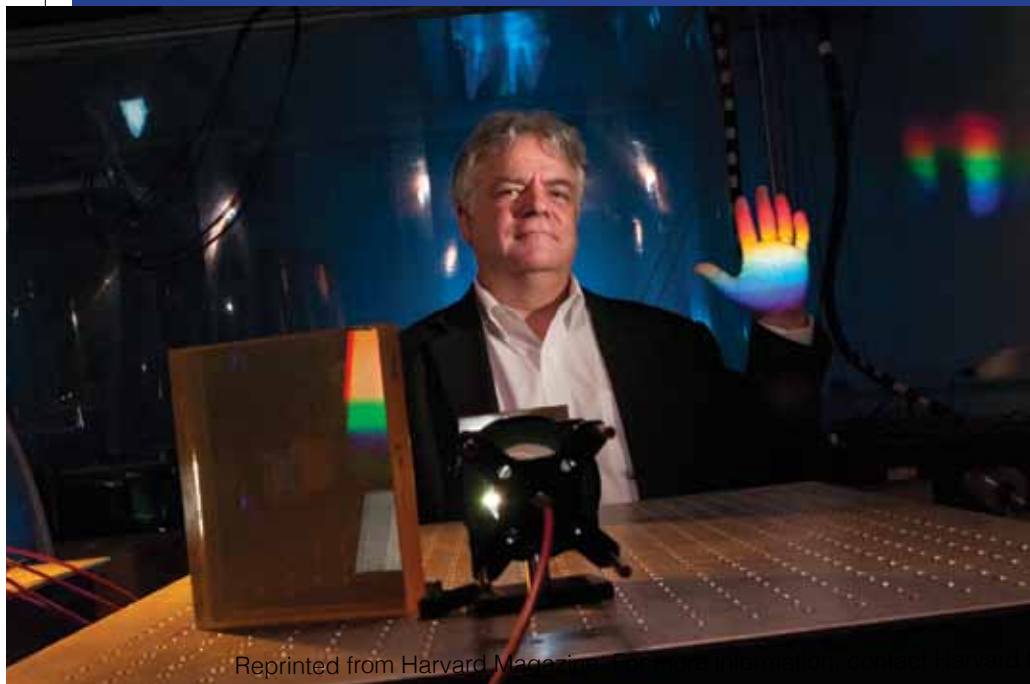
those to come, depend on acutely sensitive instruments. Given the difficulty of seeing a planet apart from its nearby star’s light, exoplanets have been discovered indirectly. Although a star like the Sun comprises almost all the mass of any planetary group, the smaller, orbiting bodies do exert some pull on the star and therefore on the system’s gravitational center. Minute differences in the star’s apparent speed toward or away from an observer can be read when its light is spread into a spectrum and interpreted using a spectrograph. (A source of light—a distant galaxy, say—that is moving *away* appears to spread its light toward the red, longer wavelengths, and so is “red-shifted”; when moving *toward* the observing instrument, its light is slightly compressed toward the shorter, blue wavelengths, and so is “blue-shifted.” Think of the change in the pitch of a siren as it recedes or approaches.) These readings of “radial velocity” confirmed the first remote-planet discovery. An Earth-mass planet in the

Alpha Centauri star system, reported last autumn, was found after four years and 450 observations; the planet imparted a velocity of some 20 *inches* (50 centimeters) per second to its star—a magnitude detectable at a distance of 4.4 light years (about 25 trillion miles).

The Kepler space observatory, launched in 2009, monitors about 145,000 nearby stars, looking for slight changes in their brightness as an orbiting planet transits in front of them, blocking a small fraction of their light. This transit method of observation has yielded nearly 3,000 planet candidates, and made scientists think that planets surrounding the Milky Way’s 100 billion stars must number in the billions—making for an enormous number of Earth-like candidates.

So attention turns to Charbonneau’s aim for the next 10 years of research—building on his initial detection of remote atmospheres and measurements of planets’ surface temperatures. Determining whether

Instrument designer Andrew Szentgyorgyi illustrates the prism technology for the GMT’s high-resolution spectrograph.



Photograph by Jim Harrison

ences at Arizona, notes with amusement, “The world demand is one large mirror per year.” “Medium” mirrors include the 6.5-meter (21 feet) units fabricated in 1994 and 1998 for the twin Magellan telescopes operated by the Carnegie Observatories in Chile (with partners Harvard, MIT, and the Universities of Michigan and Arizona)—precursors to the GMT. The “large” diameter (8.4 meters; 27.5 feet) was realized in the 1997 and 2000 castings for the Large Binocular Telescope at Arizona’s Mount Graham observatory.

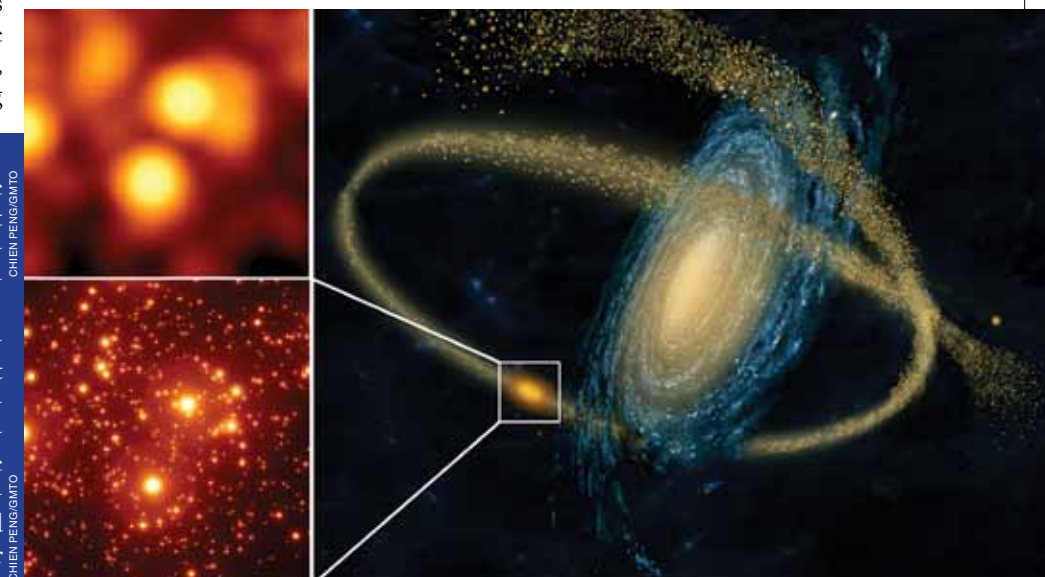
Making workable telescope mirrors on this scale has involved successive innovations: developing low-expansion borosilicate glass that is stable chemically, mechanically, and thermally; learning how to cast it, at 2,120 degrees Fahrenheit, in a rotating oven so the molten glass forms a curved shape, reducing the subsequent grinding

and polishing time from decades to years; and molding the glass over and in between precisely contoured hexagonal columns of refractory material—to shape the curve of the reflecting surface and give the mirror the strength of bees’ classic honeycomb but at a finished weight a fraction of a solid-glass casting. After the cooled glass is removed from the kiln, the alumina-silica refractory material is washed out of the underside of the mirror blank with water jets. The resulting voids make it possible to bring the mirrors down to the temperature of the surrounding air within minutes (versus impossible cooling times for a solid-glass mass), readying a telescope quickly for nightly observing without

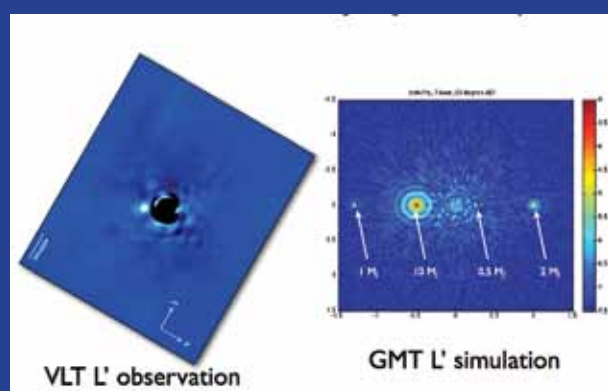
exoplanets “that might harbor the conditions for life” actually *do* is just beyond the capacity of current instruments, says professor of astronomy Charles Alcock, the CfA director.

Enter the Giant Magellan Telescope (GMT)—under development since exoplanet science began to accelerate—and the instruments being designed for it. A larger telescope with adaptive optics will enable direct observation of some stars and surrounding planets, says lecturer on astronomy Jeffrey McClintock, a senior astrophysicist with the Smithsonian observatory and a GMT board member. When married to a sufficiently sensitive spectrograph, the captured light could reveal the presence of oxygen or chlorophyll, he says. How sensitive? “You need all the collecting area you can get,” he says, because there might be only a few photons in each spectral line.

Andrew Szentgyorgyi, of the CfA, leads an international team that spent six years defining the design and performance parameters for the spectrograph, dubbed the G-CLEF (the GMT-Consortium Large Earth Finder). “The aperture of the GMT is absolutely critical” for the intended science, he says, so enough photons are captured quickly enough to combine transit and radial-velocity observations to determine target exoplanets’ size, mass, velocity, density, geophysics, and atmospheric “fingerprints.” G-CLEF, a “first-light” instrument scheduled for operation when the new telescope is commissioned, is expected to be under contract this spring and will be assembled in Cambridge (incorporating components from partners in California, Chicago, and Chile). It aims to record orbiting planets’ gravitational effect on their stars’ velocity of as little as 10 centimeters per second: the Sun’s reflex motion in response to Earth’s

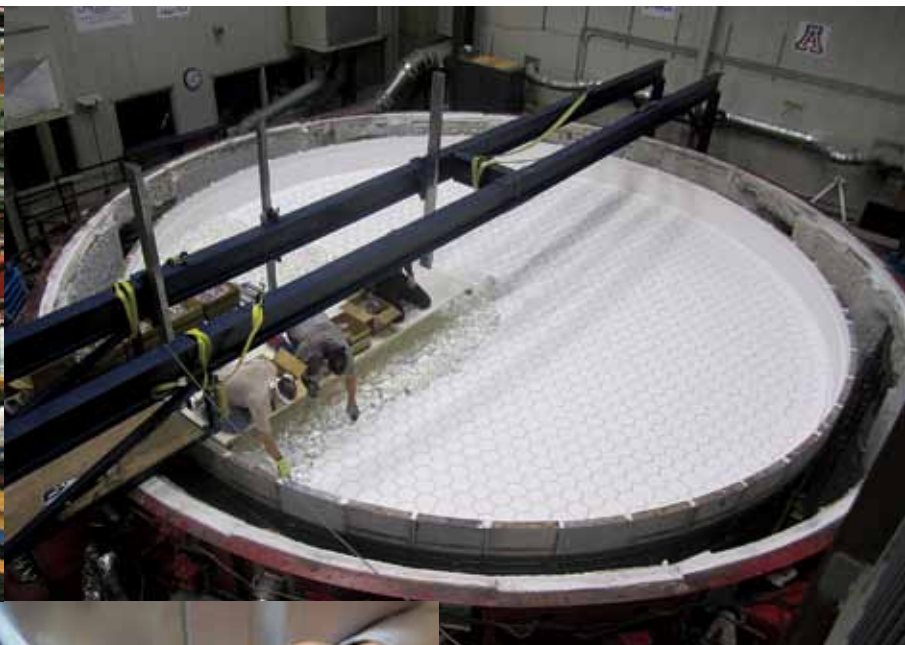


Above (at right): Artist’s rendering of a small galaxy being disrupted by a larger one and (at left) a simulation showing the gains in resolution obtained by using the GMT’s adaptive optics (to correct for blurring from Earth’s atmosphere) in studying crowded star clusters. **Right:** Planets around the star Beta Pictoris, imaged by a current, state-of-the-art telescope, and in a simulated GMT, adaptive-optics observation



gravitational pull. That is the speed, Szentgyorgyi notes, of a Galápagos tortoise if it ever chose to sprint. To achieve that sensitivity, the spectrograph will operate in the thermal isolation of a vacuum vessel, and detect shifts in spectral lines as small as the diameter of a single silicon atom.

With such capabilities, says University of Arizona associate professor Philip Hinz (who works on the GMT’s adaptive optics, and studies exoplanets), “We’ll be able to tell how common or weird our own planetary system is.” Until then, Charbonneau, from his office across the continent, is figuring out how to assess the atmospheres of the large, gaseous planets turned up by telescopes currently in use. But, he says, he is “yearning to study the planets that are Earth-like.”



thermal distortions in the glass.

Based on the precedent of the 8.4-meter mirrors for the Mount Graham binocular instrument, the GMT telescope arrays six such primary mirrors around a central seventh one. The assembled apparatus will have an effective diameter of 24.5 meters (80 feet); subtracting the gaps between the mirrors and the open aperture at the focus in the center, its collecting area of 368 square meters is millions of times that of the human eye. Astrophysicists sometimes pursue highly abstract research, but they have a very tangible feel for their instruments—and a sense of humor. Reversing the usual order of observing space from Earth, use Google's mapping tool to zoom in on the satellite view of Carnegie Observatories' offices: 813 Santa Barbara Street, Pasadena. Rather than some multiplayer dodge-ball court, those circles painted on the parking lot are a full-size schematic of the GMT's primary mirrors.



Making the separate segments operate as a unitary reflecting surface requires that the six outer mirrors be shaped *asymmetrically*, so that within the GMT, all of the collectors are focusing the photons they gather on a common point. Each of those outer, off-axis mirrors, Roger Angel says, has to be cast, ground, and polished to a more aspherical shape than any other telescope mirror in the world. Several participants describe the final form as resembling a potato chip, with a 14-millimeter variation from a symmetrical shape—equivalent to about 28,000 waves of green light. But across that irregular form, each identical outer mirror is expected to achieve a tolerance within *one-twentieth* of a wavelength of green light—about 20 nanometers (billionths of a meter). If scaled to the continental United States, the mirror glass would feature half-inch Rocky Mountains.

Achieving that shape and precision required perfecting a computer-driven, dynamic polishing tool that could adjust the polishing shape along the plane of the mirror blank. To be sure of their handiwork, the lab technicians subject the mirrors to four optical tests; for one, the equipment required a modified 400-ton testing tower, mounted on airbags to dampen external vibra-

tion, that was pushed through the SOML roof

to the top of the football stadium. (Engineers are haunted by the initial failure of the Hubble; its mirror malformation was discovered only after its 1990 launch, and Space Shuttle astronauts had to install corrective optics in 1993.) From casting in 2005 to final testing, making the first GMT mirror took seven years. The second mirror was cast early last year; the third is scheduled for this August—when the Tucson summer can perhaps supply the first 100 degrees of heating; and GMT has contracted for the glass for the fourth blank.

The result, Angel says with satisfaction of his honeycomb mirrors—now that “large” orders are nearing what passes for mass production—is “the limit of how efficiently you can make a lightweight, stiff structure.” If aliens are ever discovered inhabiting some of those newfound exoplanets, he half-jokes, their observations of Earthlings should depend on telescopes of similar design.

• *Overcoming the atmosphere.* In astronomers' ideal world, they would live without an atmosphere. It shields out (destructive but) interesting x-ray and ultraviolet radiation, and contains water vapor, making it opaque to much of the infrared spectrum. Turbulence, and differential refraction in cool and warm air, distort incoming wavefronts. Philip Hinz, an associate professor at Arizona—an institution with deep expertise in designing solutions to this problem—calls the resulting light received at an Earth telescope “corrupted and wavy.” Think shimmering mirages on a hot day, or the romance—maddening for scientists—of a twinkling star.



At the Steward Observatory Mirror Lab, in Tucson, staff load the rotary kiln with hexagonal columns of refractory material, and then cover the form with 20 tons of borosilicate glass. (The detail shows a chunk of raw glass.) After the glass is in place, the oven lid is installed and the glass is heated to 2,120 degrees Fahrenheit while the assembly is rotated (above) to form a curved upper surface for the mirror as the molten glass flows over and between the hexagons—yielding a lightweight, strong honeycomb structure. Load-spreading supports affixed to the lower surface (right) will attach the finished mirror to its steel cell, and enable operators to maintain its shape and stiffness. But first come years of polishing and testing (upper right).



One workaround is a satellite. But orbiting observatories are finicky and expensive (the James Webb Space Telescope, an infrared successor to the HST, is now expected to launch in 2018, years behind schedule, and to cost \$8 billion or more—multiples of its initial estimate, and enough to choke off most other U.S. missions' funding). And they are hard or impossible to service and to fit with new instruments or controls (the Webb will orbit nearly a million miles from Earth).

The terrestrial solution is to site telescopes *high and dry*: on a mountaintop, as far up into the atmosphere as possible, in a relatively dry venue. Darkness—the absence of man-made light pollution—is also essential. Proximity to an ocean is a virtue: airflow over water is less turbulent than the air heated and cooled over land. Hence the Mauna Kea and Canaries sites—and the arid front range of the northern Chilean Andes, where Carnegie has operated its Las Campanas Observatories since 1969. There, at an altitude of 2,400 meters (nearly 8,000 feet), the 6.5-meter Magellan telescopes have established a record of outstanding natural imaging during more than a decade of operations (see “Tying Knots,” May-June 2004, for a report on astronomical research at the site). And there, last year, a site was leveled atop a slightly higher adjacent peak—the bedrock pad for the GMT. (Its nearby support facilities will include the vacuum chamber where the glass mirrors receive their reflective coating of vaporized aluminum.)

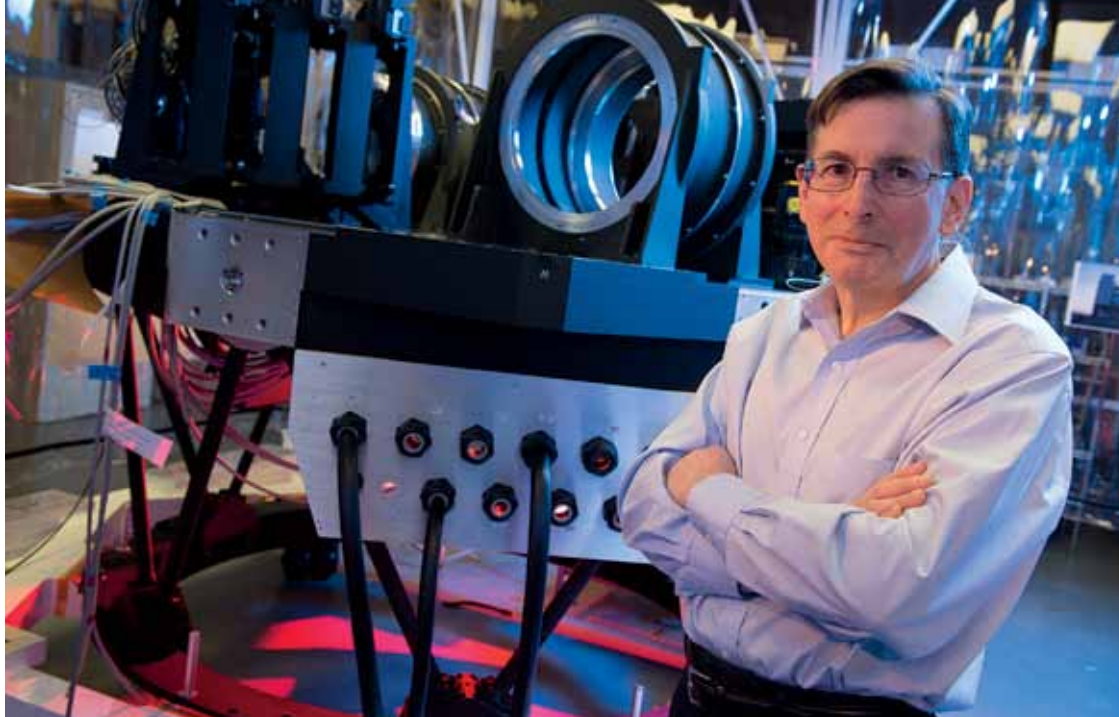
Nonetheless, there are still atmospheric interferences aplenty above the site, so the GMT will encompass other technologies in a corrective system called *adaptive optics*.

The seven primary mirrors, huge, heavy, and stiff, reflect the

light they capture to seven matched secondary mirrors mounted above, within the telescope structure. There, the similarities end. The secondary mirrors, each 1.1 meters in diameter, will be extremely thin—disks of fragile but flexible two-millimeter glass—so they can be readily deformed. Philip Hinz explains that each mirror will be mounted on 672 tiny magnet-like actuators (the shape of button batteries comes to mind) capable of firing 1,000 times per second. As wavefront detectors analyze arriving light, the actuators are programmed to deform the secondary mirrors into what he calls a “quilted wavefront pattern the opposite of the incoming wavefront”—neatly offsetting atmospheric distortion and making GMT infrared resolution 10 times sharper than the HST's imaging.

Where astronomers are observing near a naturally bright guide star, the adaptive-optics system can use that light to calibrate the character of the wavefront. But for other kinds of viewing, or where there is no such reliable beacon, the GMT will, in effect, make its own stars. A series of six lasers, grouped in pairs around the periphery of the primary mirrors, can be beamed skyward; they are tuned to excite sodium atoms high in the atmosphere—creating tiny stars of known wavelength, whose light, captured by the telescope and wavefront detectors, will enable the needed adaptive corrections.

Assessing the achievements of the scientists and engineers who perfected these technologies, Peter A. Strittmatter, Regents Professor of astronomy and Jannuzi's long-term predecessor as director of the Steward Observatory (experience that has made him a hands-on historian of telescope technology during the past four decades), says, “The borosilicate brigade and adaptive [optics] are revolutionary for astronomy.” Comparing the GMT's design



WRIT LARGE, the GMT program itself is in a similar state of precise phasing. At the organization's headquarters, on the third floor of a nondescript Pasadena office building, Patrick McCarthy and a few dozen colleagues are now in the thick of "big science" project management. Their network extends to McLeod and many others in Cambridge, responsible for the active optics and design of a "first light" spectrograph essential to the telescope's initial science mission (see "Exploring Exoplanets," page 36); to the mirror lab

to imaging assembled from multiple, interlinked observing instruments, he continues, "God doesn't let you get to the sharpness unless you have it all in one system." Of the GMT, he says, "The whole range of astronomy will be given a huge boost"—assuming one more critical issue is solved.

• *The phasing problem.* A final GMT challenge is keeping its huge mirrors properly aligned with each other. For all the precision of each primary glass element, the relatively large gaps between adjacent mirrors pose a challenge for proper focusing. Circumferential edge sensors indicate the mirrors' location relative to their neighbors. Each primary mirror is mounted on 165 load-spreading supports, with actuators to maintain proper shape and stiffness ("active optics") as the temperature changes and the telescope assembly moves. They and especially the secondary mirrors' high-speed actuators can be employed to establish and correct alignment, within a millionth of an inch.

Exquisite precision is required. Wavelengths of light arriving from space will hit the GMT's mirrors—and ultimately, the charge-coupled device or instruments (such as spectrographs)—at *slightly* different times. Getting the light thus collected in phase, with coherent patterns and a sharp focus, depends on repeated measurements and mirror adjustments to a fraction of a wavelength, before and during observing runs, according to Brian McLeod of the Smithsonian Astrophysical Observatory. An instrument designer who helped build a 360-megapixel camera for the Magellan telescopes, McLeod worked with the Carnegie Observatories' Stephen Shetman to design a phasing camera for the GMT, using Milky Way stars as a reference.

Scientists from throughout the GMT organization hailed a recent, successful test of the camera, on one of the Magellan telescopes, for overcoming the last-frontier technical challenge to the next-generation machine. McLeod describes this and other projects as working with teams of engineers to keep complicated assignments on track, so that detailed designs meet the requirements for astronomical instruments. In other words, keeping the engineers themselves properly phased.

Daniel Fabricant, of the Smithsonian Astrophysical Observatory, an early leader in the GMT's design, appears with a spectrograph under construction in Cambridge.

in Tucson and adaptive-optics experts there and in Australia; to teams in Texas and Korea—and beyond. The process comes together in formal project meetings and project-design-review spreadsheets of a size and complexity (with hundreds of individual tasks and dozens of columns of deadlines and critical check points) that perhaps only astrophysicists could truly enjoy.

Ticking off the status of the mirrors, adaptive optics, and phasing system late in the winter, organization chair Wendy Freedman says, "We've *retired* the greatest technical risks to the project. I feel extremely excited by all the recent progress. We're really making this happen." Assuming completion of the design reviews this fall, the GMT could proceed to construction next year. "Managing the planning is a challenge," she continues. "It's a *big* project."

Given the change in the world economy and the financial circumstances of the GMT partners since their initial planning at the turn of the millennium, a relieved-sounding Freedman reports "huge progress in recent months, weeks, and days" on institutional issues as well. "One of the best things about this project," she says, is that the members are "like-minded academic institutions who all want to see this proceed" and are accordingly "assembling what they need to do internally" to fund the work (for which U.S. government support is, conspicuously, absent—as has been the case for many landmark terrestrial observatories during the past century). At the beginning of this decade, GMT and its associated instruments were estimated to cost some \$700 million. Updated figures, reflecting the final design, the experience building the first mirrors, and inflation through anticipated completion, should emerge from the final design review and bidding late this year and early next. (In the meantime, the University's capital campaign could provide an impetus for meeting Harvard's 5 percent to 10 percent share of the GMT's construction costs.)

If that schedule holds, Freedman says, the GMT could begin operating in 2019, with the first four mirrors in place and an initial astronomical instrument or two. The remaining mirrors would arrive, by ship and truck, at annual intervals thereafter,



Visit www.harvardmagazine.com/extras to watch an animation of the telescope.

Stellar Archaeology

SOME EXPLORE the origins of the universe by seeking to observe the most distant galaxies (see “Conjuring the Cosmos,” page 34). Anna Frebel instead practices

“stellar archaeology.” The former Clay Fellow at the Harvard-Smithsonian Center for Astrophysics, now assistant professor of physics at MIT, compares the unusual chemistry of ancient stars in the Milky Way’s halo (the galactic outskirts, a hundred thousand to a few hundred thousand light years away) with that of stars in dwarf galaxies (“the wimpiest, faintest galaxies,” she fondly calls them) that still orbit the Milky Way. Her painstaking observations reveal that both populations are similar: these “low-metallicity” stars (with dramatically less iron, for instance, than such comparative newborns as the Sun) date from distant cosmological history, 13 billion years ago, close to the era when the only elements were hydrogen, helium, and a trace of lithium.

If that hypothesis is correct, astronomers can focus attention on these relatively nearby targets to explore the events that followed the Big Bang, interpreting the processes that formed early stars and galaxies from their surviving remnants (hence, archaeology), long since cannibalized by younger structures like the Milky Way. In 2007, Frebel found one of only two known old stars with measurable amounts of uranium—a massively heavy element thought to have formed in the collapse of an early-generation star and its explosion as a supernova, an event that could have enriched subsequent star-forming gas clouds. Radioactive elements such as uranium and thorium, given their known rate of decay, offer uniquely valuable tools to date a star’s contents. Much more data must be collected, but the research to date, she writes, “raises the hope that we have finally identified a Rosetta Stone of cosmic chemical evolution....”

In “Four Starry Nights,” an account of her observations published in *Scientific American* last December, Frebel details the difficulty of collecting the information she needs, even when using the Carnegie

Observatories’ powerful Magellan telescopes in



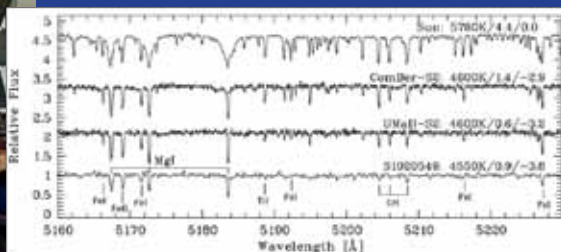
Astrophysicist Anna Frebel, outside and (below) observing at the twin 6.5-meter Magellan telescopes in Chile. Bottom: spectra of the Sun (top line) and the ancient, metal-poor stars she studies

Chile: “Ideally, I want to observe each dwarf galaxy star on my target list for a total of 10 hours because these stars are so faint....” But because energetic cosmic rays constantly hit Earth—and the telescope’s detector—she has to limit those observations to 55-minute segments (lest background noise overwhelm the wanted signal). The metrics for a successful night of observation, she writes,

include tracking “the number of photons I have collected so far, the positions of my target stars in the night sky, and the weather forecast.”

Those constraints—and absolute limits on collecting light from any stars other than the brightest few in her target dwarf galaxies (without which, documenting their detailed chemical evolution is impossible)—explain Frebel’s enthusiasm for next-generation instruments that could get her more light, from fainter sources, more quickly. She played a significant role in framing the Giant Magellan Telescope’s (GMT) recently revised science agenda, and chaired the scientific working group that defined the telescope’s high-resolution optical spectrograph (see “Exploring Exoplanets,” page 36). Of course, even the GMT cannot overcome occasional adverse weather.

Current theory suggests that the first stars and galaxies formed when the universe was perhaps half a billion years old. “That may not be right, but it’s not wrong,” Frebel says. “We just don’t know better”—yet. Research with more powerful observing tools will also yield insights into how the universe was seeded and enriched with elements like carbon: the building-block of life. “We come to some extent right from the Big Bang,” Frebel says. “We are made from star stuff.” The GMT thus will help astronomers and astrophysicists get closer to answering questions about matters both incredibly large and atomically small.



enabling the full research program by 2022.

And then? Freedman highlights some elements of the GMT’s scientific objectives, from characterizing exoplanets (“an extremely exciting area for all of astronomy right now,” not to mention the public at large) to a “staggering jump” in direct observation of stars and galaxies from the earliest universe. But beyond those carefully parsed plans, she says, every telescope since Galileo’s modest instrument of 1609 has extended astronomical research beyond its practitioners’ imaginations. “The unexpected, the unanticipated discoveries that come with new capabilities,” she says, “that’s what really excites people.”

John S. Rosenberg, editor of *Harvard Magazine*, in 2004 visited the Chilean observatory where the GMT will be sited.

The Urban Jobs Crisis

Paths toward employment for low-income blacks and Latinos

by James M. Quane, William Julius Wilson, and Jackelyn Hwang

IN HIS STATE OF THE UNION ADDRESS on February 13, President Barack Obama urged that young people be given the opportunity to obtain the skills training and education that will enable them to find stable jobs in the modern labor force and work their way into the middle class. To this end, the president proposed that high schools be better equipped to ensure a real path from school to work for non-college-bound youth.

Today, the likelihood that young Americans with a high-school diploma or less—who are disproportionately disadvantaged minorities—will obtain such a job is much lower than it is for their counterparts who go on to college. In the past, those without an advanced education or specialized skill did not always face such enormous disadvantages. But changes in employment during recent decades have seriously diminished the earnings and job stability of many working Americans whose skills have not kept pace with shifting requirements of the labor market. The Great Recession (which officially lasted from December 2007 through July 2009) magnified this problem. Sociologist Arne Kalleberg argues convincingly that industry restructuring, globalization, deregulation, and the decline in unionization are causing the dramatic increase in unstable, lower-wage jobs and concomitant decline in “relatively low-skill, traditional, middle-class jobs with good pay and benefits, job stability, and steady promotions.”*

Workers from all racial and ethnic backgrounds who hold jobs in the most vulnerable occupational sectors have been affected: they face working reduced hours, taking a lower-paid position, or leaving the workforce permanently. This is particularly true for black and Latino workers, especially from disadvantaged backgrounds, who must contend with other unique circumstances that seriously curtail their ability to compete for good jobs. Historical patterns of occupational clustering in manufacturing and low-paying service jobs, for example, have disproportionately exposed them to unstable employment during economic downturns. In addition, the institutional failures of urban schools and community colleges have detracted from minority students’ preparedness for gainful employment in an advanced economy. Finally, the residential patterns of low-income black and Latino families, clustered in dense concentrations of homogenous socioeconomic, racial, and ethnic enclaves, have also affected their employment prospects.

These structural and institutional conditions

*Full citations for outside sources cited or quoted appear in the online version of the text.

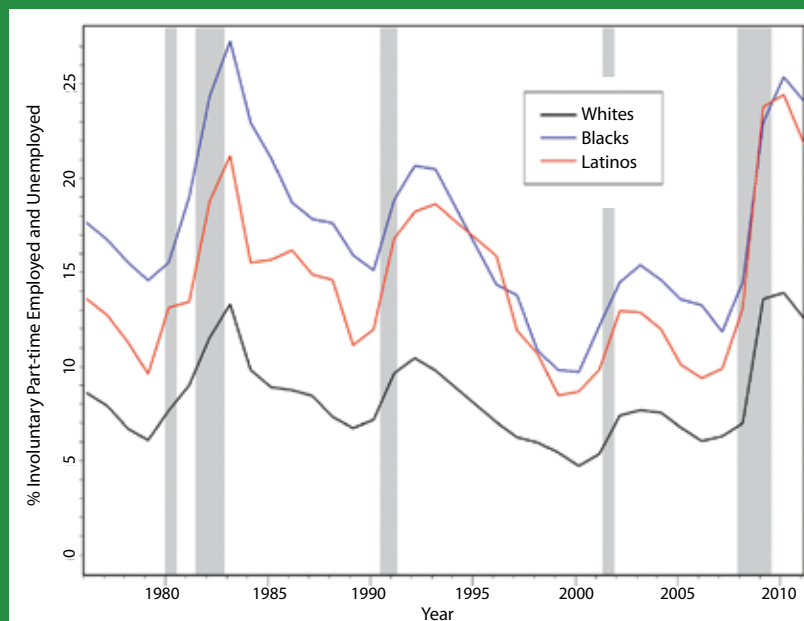
undoubtedly contributed to the disproportionate rates of unemployment that black and Latino males have experienced, compared to white men, since the mid 1970s. When the *national* unemployment average hit double digits in October 2009—for the first time in more than a quarter-century—it was major news. But unemployment among black men had *already* been in the double digits for most of the last several decades. Unemployment rates also topped 10 percent among Latino men during the Great Recession—but not among white males.

Unemployment rates alone do not reveal the full extent of the jobs crisis affecting many low-income communities. In Figure 1, we show the combined rates of unemployment and involuntary part-time employment among males by racial and ethnic group. (Involuntary part-time workers are those who would like to work a 40-hour-per-week job but have had their hours curtailed or are unable to find full-time employment.) As the data indicate, economic cycles—particularly the deep recessions that the United States experienced recently and in the early 1980s—affected rates of employment and underemployment among black and Latino males much more severely than among their white counterparts.

But the problem is not merely cyclical: restoring the jobs lost

Figure 1 Rates of Part-time Involuntary Employment and Unemployment among Male Workers 16+ by Race and Ethnicity

Shaded areas indicate recession periods



Source: Authors' tabulations based on Bureau of Labor Statistics' Current Population Survey (March supplement)

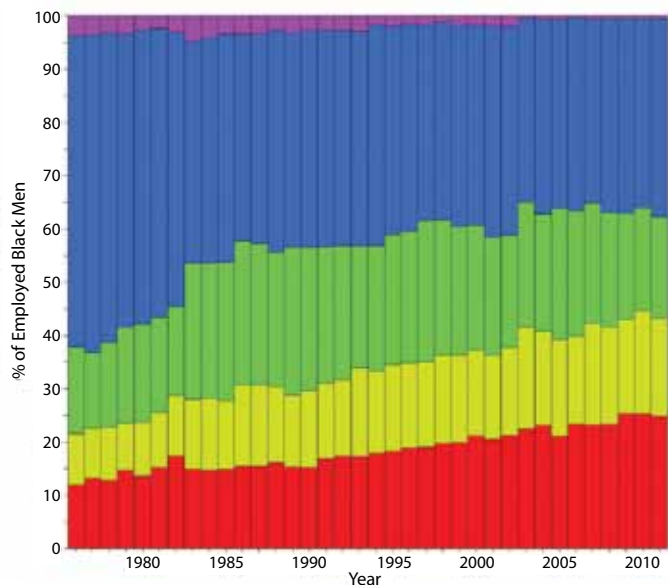
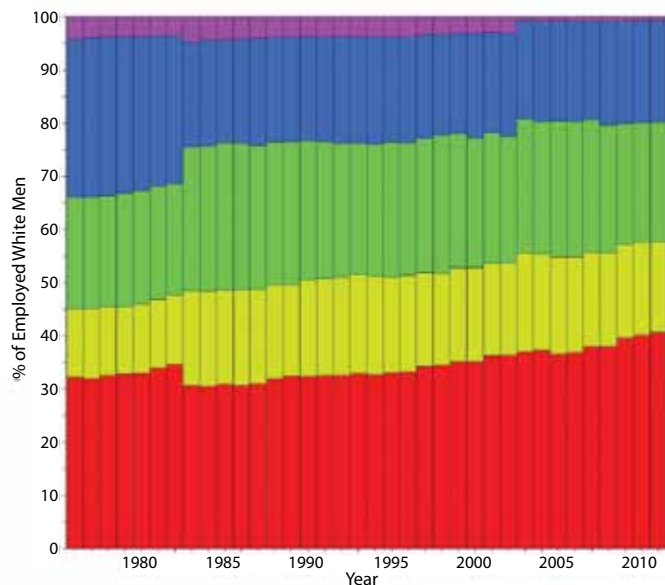
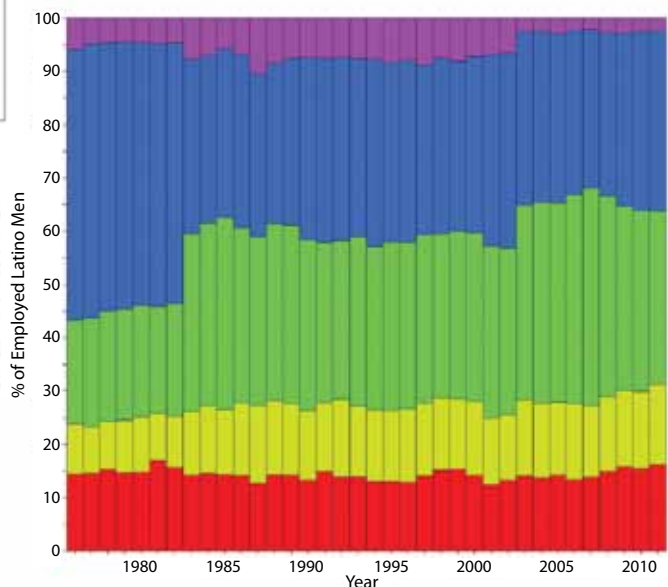
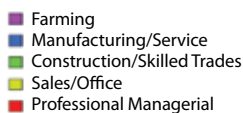


Figure 2 Occupational Clustering among Male Workers 16+ by Race and Ethnicity

Source: Authors' tabulations based on Bureau of Labor Statistics' *Current Population Survey* (March supplement)



during the Great Recession will *still* leave a disadvantaged population mired in an employment crisis. Beyond the need to create sufficient demand to get the recently unemployed back to work, we must better understand the unique problems facing minorities in poor urban communities, which require more focused solutions to the obstacles keeping them from gainful employment.

Occupational Clustering

MINORITY WORKERS who face barriers to employment and are concentrated in specific sectors of the economy are handicapped when economic downturns or shifts in the labor market diminish employment opportunities in those sectors. In Figure 2, we illustrate, using fairly broad categories, how the occupational clustering of black and Latino workers, as compared with white workers, has progressed for more than a quarter-century. Blacks and Latinos are heavily concentrated in manufacturing and service-sector jobs, and large proportions of Latinos are also employed in construction and skilled trades.

Among blacks, the civil-rights reforms and job-creation efforts in the 1960s and early 1970s opened up better employment opportunities and helped to boost their economic progress after decades of widespread discrimination. Many of these gains came in manufacturing and goods-producing industries where black workers were already well represented. But the gains were fragile, and “middle skilled” blue-collar jobs—those that economists David Autor and Frank Levy of MIT and Richard Murnane of Harvard describe as being acquired through routinized on-the-job experience—were relocated offshore or to less-industrial areas of the country or were replaced by production-enhancing technology. The restructuring of the U.S. labor force provided fewer opportunities for on-the-job

skills acquisition and pushed less educated minority workers down the earnings ladder distribution in those very sectors in which their predecessors had made inroads decades before.

We also see from Figure 2 that Latinos are seriously *underrepresented* in white-collar occupations and *over-concentrated* in blue-collar jobs relative to whites. According to a 2005 Pew Research Center Report, Latinos tend to be clustered in low-paying service jobs, such as household, building, and grounds cleaning, as well as in farming and construction labor. Meanwhile, their growing concentration in these occupations coincided with expansions of lower-paying jobs in the service sector and significant immigration of Latinos, especially from Mexico, between 1990 and 2000. Language and legal-status barriers, and the lack of a U.S.-based secondary education, have severely hindered such workers who may be seeking jobs in other, better-paying industries.

Although self-selection may result in some of the over-concentration of black and Latino workers in certain industries, it

is implausible—given the enormous wage differentials that can separate blue- and white-collar jobs—that most people would voluntarily choose jobs that are rated lowest in terms of pay, health and retirement benefits, autonomy, and flexibility. More importantly, the status and earnings potential represented by educational attainment, particularly postsecondary credentials, have increased in importance and lucrativeness for workers even as the quality of education in poor urban schools has declined.

Urban Poverty and Low Educational Attainment

RESEARCH SHOWS that blacks and Latinos have demonstrated sizable gains in their educational achievements in recent years compared to white students, but their rates of high-school completion and college enrollment remain a serious concern. Official government figures showing high rates of graduation among blacks and Latinos have been criticized for, among other things, inflating these percentages by including alternative certificate (GED) holders in these estimates. A more accurate indicator is still being debated, with most researchers estimating that between 30 and 50 percent of blacks and Latinos drop out of school before the end of the twelfth grade.

As for those who remain—there is strong evidence that low-income Latinos and blacks receive educations qualitatively different from those of their white peers. Not only are they more likely to be placed in classrooms with mostly other poor minority students, but they are less likely to be placed in Advanced Placement (AP) classes and more likely to be suspended or placed in special-needs classes. Consequently, it seems likely that the classroom environment and socialization children experience in racially and socioeconomically segregated schools and classrooms affect their learning in tangible ways.

The dissimilarities do not end there. Blacks and Latinos are also more likely to attend a community college than a four-year, degree-granting university. Georgetown economist Harry Holzer's research shows that, just as with high school, there are extremely high dropout rates among minorities enrolled in these institutions. And those who remain are more likely to populate remedial classes and less likely to graduate with a marketable associate's degree.

All this is unfolding as the so-called “college premium”—the financial and social benefits enjoyed by college graduates compared to those who are not—has increased considerably. Graduates from selective universities and those with advanced degrees have done well in the labor market during the past 30 years, as Harvard economists Claudia Goldin and Larry Katz carefully demonstrated in *The Race Between Education and Technology*. Meanwhile, the diploma holders and high-school dropouts, in particular, have seen their marketability decline sharply during the same period across *all* racial groups. These shifts are fueled in part by rising demand

for better-educated workers at the expense of those with less.

Indeed, as we show in Figure 3, the average income among bachelor's and advanced-degree holders differs substantially from that of high-school graduates and dropouts in the same racial or ethnic group. Furthermore, differences still remain across racial and ethnic groups, even among those with similar levels of education. As the trend lines indicate, high-school dropouts do the worst in terms of annual income, with blacks generally earning less than the other dropouts, apart from a couple of brief periods of convergence. The income of white workers who graduate from high school and complete some college pulls away from the income of the other groups, with the earnings of comparably educated blacks and Latinos remaining fairly similar to each other. These differences become even starker for those who earn an undergraduate or advanced degree. Thus, a college premium does exist for all racial and ethnic groups, but white college graduates and advanced degree holders do *much* better, in terms of earnings, compared to their black and Latino counterparts, and this gap has widened over time.

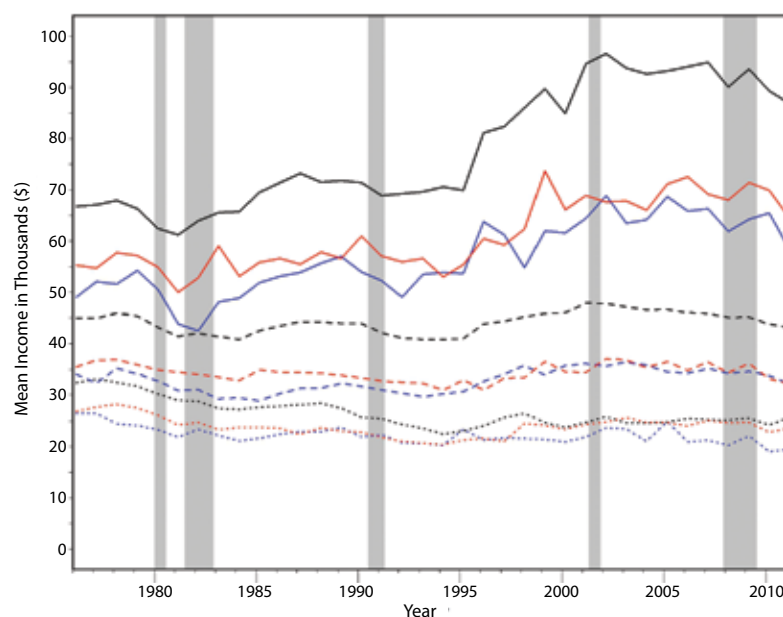
The Neighborhood Effect

THE NEIGHBORHOODS in which families send their children to public school and encounter one another outside the home also matter considerably in terms of those families' economic, social, and physical well-being. Increasingly, residential patterns mean

Figure 3. Real Mean Income among Male Workers 16+ by Educational Attainment, Race, and Ethnicity

Shaded areas indicate recession periods

Source: Authors' tabulations based on Bureau of Labor Statistics' *Current Population Survey* (March supplement)



that poorer black and Latino families and their children are not only segregated from whites, but are also increasingly less likely to live close to wealthier, more educated, and better-employed fellow blacks or Latinos. Lacking the financial, human, and political resources of the wealthy, institutions (such as schools) in poorer neighborhoods have declined in quality, in turn adversely affecting the education and life chances of children born to poorer families. Disadvantaged urban blacks are heavily concentrated in such neighborhoods. Latinos reside in urban neighborhoods that are less segregated than those occupied by blacks, but they still tend to live around other native-born and immigrant Latinos in older neighborhoods with fewer resources. Consequently, as Princeton sociologist Douglas Massey and his colleagues have pointed out, race, ethnicity, and class segregation are becoming “the key nexus in defining urban spatial structure and determining the location of people within it.”

No doubt such patterns affect the kinds of friendship networks people are more likely to form, and the sorting process by which they find romantic partners. It is probably safe to assume that residential separation also affects the sharing of information about what constitutes a quality education or the pathway to a college degree. When the occupational clustering described earlier is considered, it seems likely that any leads job seekers may obtain from these networks are seriously limited to the narrow range of job categories and quality already represented in these communities.

Finally, poor urban neighborhoods are also at a disadvantage when it comes to absorbing the impact of the federal, state, and local budget cuts that commonly accompany economic downturns. Layoffs in the public sector are particularly hard for blacks, who have had better success finding well-paying jobs in this sector than in private industry. But budget cutbacks also involve the loss of funding for many government-supported social programs that engage youth in afterschool activities, counsel single mothers, provide job training and employment services, keep class sizes low, underwrite prisoner reentry programs, provide healthcare, and a range of other initiatives that in good economic times are touted as critical interventions for families' well-being. These cutbacks, combined with job instability, earnings disruptions, and general economic malaise, mean that the real impact of a recession cuts much, much deeper into the fabric of these communities in particular, and the negative repercussions can extend far longer, even across multiple generations, than official economic figures convey.

Education, Training, and a Comprehensive Jobs Agenda

TOGETHER, the clustering of full-time and irregularly employed blacks and Latinos in occupations that are unstable, low-wage, and poor quality, and the poor's physical concentration in depressed neighborhoods introduces a more insidious segregation defined by race, ethnicity, and social class. Such patterns disconnect disadvantaged workers and job seekers from important practical knowledge and socialization experiences that are imperative for getting ahead in the modern economy. A comprehensive, far-reaching, inclusive schools and jobs initiative would help fill the chasm that hinders minority workers from acquiring or reconnecting with jobs. We now have a good deal of knowledge, much of it based on scientific evidence from randomized clinical trials or other sophisticated evaluation methods, about the kinds

of educational and vocational interventions that could best succeed and under what conditions if brought to scale.

For example, we know a lot more about how to structure strategic partnerships and connect training directly with jobs to bolster students' chances of making a successful transition from school (or college) to work. In his State of the Union address, the president mentioned a fairly new high-school initiative in Brooklyn that partners with IBM to help train the next generation of workers. Similarly, major employers such as Caterpillar Inc. are partnering with area community colleges, vocational schools, and the Department of Labor to create apprenticeship programs that provide the skills training for occupations that address the company's needs. There are other good models of such partnerships, some of which have been around for a lot longer and have undergone rigorous evaluations to test their effectiveness. Career Academies, operating out of approximately 2,500 urban high schools around the country, for instance, combine academic instruction and training targeted to specific industries in partnership with local employers. The Manpower Demonstration Research Corporation (MDRC) recently completed a comprehensive 13-year evaluation of this initiative and found strong and sustained positive effects on students' employment outcomes, most notably in earnings, especially for black males.

However, to reach a broader range of workers, such initiatives should be part of a more comprehensive and holistic employment policy, one that also takes seriously the issue of large-scale jobs creation across the entire skills spectrum, as well as the quality of those jobs. Ever since welfare reform was enacted in the 1990s, for example, considerable attention has been given to helping low-income mothers transition into employment. These efforts, coupled with a robust economy, resulted in large numbers of low-income women entering the labor force in the late 1990s and early 2000s. Since then, though, their earnings have stalled, raising serious concerns about the need for more effective career-advancement strategies coupled with comprehensive family-support systems to help bolster their career advancement. Similarly, many older white workers have been displaced from their jobs and face enormous barriers finding comparable work. Because unemployment and underemployment are linked with pervasive social problems and economic maladies that affect all workers, working- or middle-class, regardless of race, ethnicity, gender, or age, a more inclusive, far-reaching initiative would elevate the skills and job opportunities of many Americans. But poor and working-class blacks and Latinos have been on the ropes since well before the Great Recession. Without coordinated, deliberate intervention at the policy level, the outlook for their economic future is very bleak indeed. ▢

Geyser University Professor William Julius Wilson is author of The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy, (1987; second edition, 2012), and When Work Disappears: The World of the New Urban Poor (1996), among other books. He directs the joblessness and urban poverty research program at the Harvard Kennedy School's Malcolm Wiener Center for Social Policy; James Quane is associate director. Jackelyn Hwang, a doctoral candidate in sociology and social policy, is a doctoral fellow in the multidisciplinary program in inequality and social policy. The authors would like to acknowledge the helpful comments provided by Nathan Wilmers, a graduate student in sociology.



JOHN HARVARD'S JOURNAL

SCORING THE BIGGEST WIN in the history of the Harvard men's basketball program, the Crimson upset powerful New Mexico—whom some had picked to reach the Final Four—68-62, to record Harvard's first win in an NCAA basketball tournament and first against a top-10 opponent. Here, sophomore guard Wesley Saunders, who led the Ivies by averaging 16.5 points per game, gets past seven-foot New Mexico center Alex Kirk. Harvard finished atop the Ivy League for the third consecutive year. After Harvard defeated New Mexico, Arizona easily handled a cold-shooting Crimson squad, 74-51, in the next round. But with only one senior leaving, Harvard's hoopsters may come back even stronger next year.

E-mail Imbroglio

EVEN BEFORE CLASSES MET, this academic year began on a somber note. The College disclosed on August 30 that nearly half the students (more than 100) in a large lecture course were being investigated for impermissible collaboration or even outright copying of classmates' answers on the take-home final exam the previous May. Then, on February 1, Faculty of Arts and Sciences (FAS) dean Michael D. Smith reported that some three-quarters of those students were forced to withdraw for some period or

placed on probation: more than 1 percent of the undergraduate body punished for academic misconduct in a single case.

No one expected that distressing story to metastasize as it did during the weekend of March 9-10. *The Boston Globe* reported that as the huge cohort of investigations had begun, publication of communications from the Administrative Board caused concern about protecting confidential student information—prompting administrators to authorize searches of the e-mail accounts of the College's 16 resident deans, who advise undergraduates and represent them in proceedings before the Ad Board. Subsequent news only aggravated the situation.

- March 11. Dean Smith and University vice president and general counsel Robert Iuliano conducted a briefing to review a statement released by Smith and Harvard College dean Evelyn M. Hammonds (who was not present). That document reviewed the early conduct of the Ad Board investiga-

IN THIS ISSUE

48 HarvardX at One
49 Yesterday's News
50 Harvard Portrait
50 Campaign Chatter
52 The Undergraduate

53 Brevia
55 Sports
57 Alumni
60 The College Pump

tion (Hammonds is chair) and noted that a “confidential e-mail sent to resident deans...was forwarded beyond the group, and eventually made its way to news outlets.” That “was quite concerning,” given the need to maintain students’ privacy and to guarantee “due process...before the board.” Board members were advised, and “It was made clear at that time that absent clarification of what happened, an investigation would be required. No one came forward.” Following a news report on a conversation within the board, members “were again queried but no explanation emerged.”

Ultimately, “with the approval of the dean of FAS and the University general counsel, and the support of the dean of Harvard College, a very narrow, careful, and precise subject-line search” was conducted by the University’s IT department, “limited to the administrative accounts for the resident deans...as distinct from their individual Harvard e-mail accounts.” The investigation “was limited to a search of the subject line of the email that had been inappropriately forwarded....The subject-



Drew Faust

ROSE LINCOLN/HARVARD NEWS OFFICE

of all concerned...and to protect the confidentiality of the Administrative Board process. I share the view that questions about whether more Resident Deans should have been informed sooner are fair to ask....”

Her sense of comfort would be challenged, and the fairness issue expanded. Faculty members made clear their unhappiness about the e-mail investigation and the apparent distinction drawn between professors (who by FAS policy must be notified if their e-mail accounts are examined for, say, a legally mandated investigation of academic misconduct) and resident deans (who are FAS members, and often hold teaching positions, but were not accorded that treatment). The issue was not on the April 2 faculty meeting agenda, but many expected that it would be raised.

- April 2. In a tense, standing-room-only meeting in University Hall, Faust departed from routine business to address “e-mail privacy.” She said that after March 11, she had sought a fuller account of the facts and past practices governing investigatory access to such communications—and had discovered “highly inadequate” policies and practices that not only made it difficult to know what had been done, but represented “a significant institutional failure.” She declared that Harvard must “never again” face such a situation.

That situation, Dean Smith then explained, was more troubling than his March 11 statement with Dean Hammonds had revealed. Following a March 12 meeting with the Ad

Board, he told his faculty colleagues, he emerged with more questions; pursued more information from the IT staff and general counsel’s office; and “learned of additional actions—concerning actions—taken in this case.” He then turned to Hammonds.

She immediately said she and others had “made serious mistakes”—in particular, her failure to “recollect” that she and a Harvard attorney had authorized two more searches of the same resident dean’s e-mail accounts (administrative and individual FAS accounts), looking for contact between that dean and two students covering the Ad Board for the *Crimson*. In neither case did she (or ap-



From Academic Misconduct to E-mail Investigations

All of Harvard Magazine’s online and print reporting on the academic-misconduct case, administration responses (including the full texts of statements by President Drew Faust, Dean Michael D. Smith, and others), prospective legislation on academic integrity, and the latest news concerning the investigations of e-mail accounts appears at <http://harvardmag.com/misconduct>.

parently the general counsel’s office) inform or seek approval from Smith, the normal procedure. Nor had Hammonds recollected this information prior to the March 11 statement, resulting in “inaccuracies.”

Faust then reminded the faculty of the “extraordinary size and scope” of the Ad Board investigation, and of the need to keep student information confidential throughout. Pursuing private and transparent processes at the same time sometimes brought commitments into tension—“and sometimes those tensions may be reconciled in a highly imperfect manner.”

She announced two actions. Foley Hoag litigator Michael B. Keating, LL.B. ’65, will conduct an external review of Harvard’s research into the e-mail investigations, and will report to Faust whether the situation is completely understood. Separately, Green professor of public law David J. Barron ’89, J.D. ’94, will chair a University task force to establish policies and guidelines on e-mail privacy, with recom-



Evelynn M. Hammonds

JON CHASE/HARVARD NEWS OFFICE

mail investigation had occurred.

Certain claims in the announcement were disputed by the senior resident dean, Sharon Howell, lecturer on history and literature. The *Globe* reported that she had not been informed about the e-mail investigation, contradicting the Smith-Hammonds statement—and on March 11, she disseminated an open letter to President Drew Faust, raising as the crucial question the “trust at the heart of Harvard’s culture that is ours—yours—to protect or not.”



Michael D. Smith

JON CHASE/HARVARD NEWS OFFICE

mentations to be ready for Corporation action by the end of 2013.

THESE PRESENTATIONS left many questions unanswered: What was the impetus for the second and third e-mail investigations? How were they initiated without the FAS dean's assent? What was learned about the handling of Ad Board materials from those further queries? What transpired in the March 12 meeting that prompted Smith to pursue further queries? When did he and Faust learn about the additional investigations?

In the ensuing discussion, faculty members thanked Faust, Smith, and Hammonds for their statements and the apologies offered—but also raised further concerns. Some focused on the damage done to resident deans' confidence, and to students' belief that they could trust in the confidentiality of their communications (often about personal or academic challenges) with resident deans.

Others expressed worry about the caliber of the communications between University and FAS administrators and the faculty. Lane professor of the classics Richard Thomas, a member of the elected Faculty Council, which consults with and advises Dean Smith on FAS matters, said that trust depended on a foundation of truth in the accounts of what had happened and why. Professor of history Lisa McGirr characterized many exchanges as having devolved to a "spectator sport," with faculty members observing presentations but not having a genuine, or sufficient, opportunity to weigh in on issues ranging from the planned move of the School of Engineering and Applied Sciences to Allston, to a proposed policy on professors' involvement in online instruction. Francke professor of German art and culture Jeffrey F. Hamburger, another Faculty Council member, spoke of the "unhelpful distance" that had arisen between faculty members and decision-making administrators.

WHEN THE docketed business resumed, dean of undergraduate education Jay M. Harris presented a summary report on the meeting's intended focus: how to respond to new challenges to academic integrity. The preliminary report of the faculty-student committee on academic integrity, based on three years of work and distributed for faculty members' consideration, calls for a "modified honor code," with a statement of values, a "declara-

tion of integrity" for students to affirm their adherence to those values, and opportunities throughout their four years to learn about those values. It does *not* call for students to monitor one another during exams, but does suggest creation of a student-faculty judicial board to hear academic-dishonesty cases (now the realm of the Ad Board, which does *not* have student members).

That last proposal will require further discussion. Separating academic-integrity cases from other Ad Board proceedings may depart from the board's tradition of viewing its work as educational, not solely disciplinary, and considering the students appearing before it in holistic terms. And given the

crushing workload the Ad Board faced this academic year, student members of such a body might be overwhelmed if another significant cheating case arose.

Furthermore, a *student* pledge, one faculty member noted, does not address *professors'* teaching obligations, and the 2012 cheating case itself raised questions about classroom rigor, the nature of final examinations, and the instructions students are given.

As the faculty debates how best to proceed, it seems certain that FAS's response will extend into the 2013-2014 academic year—and that the University, too, confronts much unanticipated, unfinished business.

HarvardX at One

THE EDX online-learning venture, born last May, is progressing from infancy to adolescence at Internet speed (see "Online Evolution Accelerates," March-April, page 51). As it does, HarvardX, the University's operating entity for the initiative, shows signs of both expanding ambitions and the interesting questions that inevitably accompany pell-mell growth.

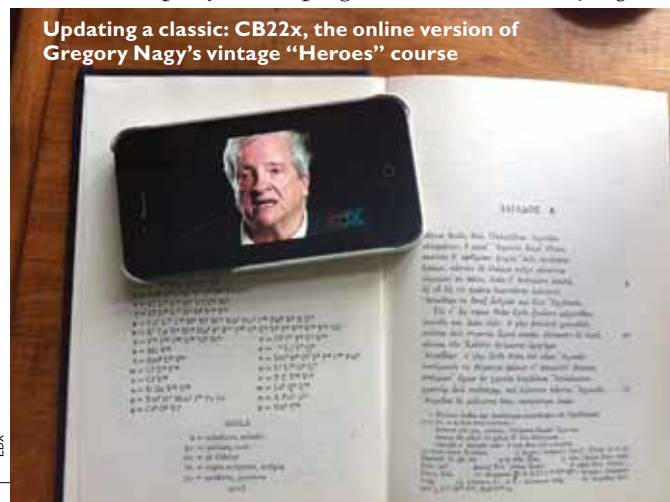
- **International reach.** The edX partnership welcomed six new members during February—ranging from the Australian National University to Delft University of Technology—bringing its roster to a dozen institutions. During President Drew Faust's March trip to Asia, she and HarvardX faculty director Robert Lue briefed Hong Kong alumni and business leaders on the University's online teaching. Enrollments in free, massive, open online courses (MOOCs) suggest high student interest in rapidly developing nations

such as China, India, and Brazil.

- **Infrastructure.** The University disclosed HarvardX's leadership, including a senior administrative cohort led by provost Alan Garber; its faculty steering group, with representatives from seven schools and faculties, among them Harvard Law School dean Martha Minow; an education-research and -assessment committee—Andrew D. Ho, assistant professor of education, is research director; and a support team, with technology, communications, and fundraising personnel. See a complete report at <http://harvardmag.com/edx-leaders>.

HarvardX is hiring a production staff, including course-development, media, and video managers; personnel are at work on Mount Auburn Street, where video facilities are under construction. Meanwhile, both Harvard and MIT seek philanthropic support to fund their individual, \$30-million commitments to launch edX.

- **Economics.** In late February, the *Chronicle of Higher Education* reported that edX was offering affiliated institutions two course-posting options. Under the "self-service" model, they can use the edX platform for free, producing courses without edX staff assistance; once such courses are live, edX receives the first \$50,000 of revenue, and then splits



any additional income equally with the university partner. An “edX-supported” model, with full design and production assistance, costs a base fee of \$250,000 per course, plus \$50,000 for each subsequent term it is online.

If those figures indicate the cost of developing a course—with video lectures, supporting materials, online exercises, messaging tools, programming, and hosting—then Harvard’s ambitions to get multiple courses online each semester suggest significant investments. Not counted in such costs is compensation to faculty members for preparatory work or running the courses once they appear online. To date, faculty members who wish to create online courses are doing so with significant University support, but without direct compensation for their time.

- Faculty members’ changing roles. Compensation aside, online teaching raises new questions about professors’ obligations. President Faust last fall asked a Council of Deans subgroup to revisit the 2000 policy on professors’ outside activities. Their draft, “Teaching and Other Educational Content in the Online Environment,” disseminated for comment, encourages experimenting with pedagogical technologies, but says, “When Harvard is able to accommodate a faculty member’s request to make educational content available online, the faculty member is expected to use a Harvard platform.” Using other platforms requires prior approval.

If this policy prevails, Harvard faculty members will be less likely than peers at other institutions like Stanford, which are experimenting with multiple online platforms, to have access to other, evolving technologies for such courses. And the issue of effective control over a faculty member’s free-time efforts, and possibly teaching content, is thereby brought into play. This may foreshadow future discussions about the ownership of intellectual property, given

Yesterday’s News

From the pages of the *Harvard Alumni Bulletin* and *Harvard Magazine*

1913 Mrs. George D. Widener lays the cornerstone of the Harry Elkins Widener Memorial Library during Commencement week.

1928 The Parietal Committee, facing new problems caused by an increasingly urban environment, forbids Harvard undergraduates to live in apartment houses.

1938 Members of the Harvard Young Communist League, promoting a peace strike on Boston Common, run afoul of the U.S. Post Office by stuffing House mailboxes with informational fliers. The postmaster plans to collect postage due, not the \$300 per flier maximum fine.

1943 The *Crimson* ends publication for the duration; Harvard Service News adds undergraduate news to its coverage of the trainees stationed at Harvard.

1953 The Corporation decides not to remove three instructors who have refused to answer questions from congressional committees, but officially deplors

the use of the Fifth Amendment by faculty members and states that “present membership in the Communist party,” in the absence of extraordinary circumstances, would be considered “grave misconduct, justifying removal.”

1963 Harvard, Radcliffe, and graduate-school students form the Harvard African and Afro-American Club.

1973 The *Bulletin* publishes “A Harvard Man’s Guide to the Watergate Scandal.” “Harvard men were not directly involved in the...break-in,” but all 13 alumni known to be otherwise linked to the proceedings are listed.

1988 President Bok announces plans for a University-wide institute to expand and accelerate AIDS research at Harvard.

1998 The *Crimson* celebrates its 125th anniversary, capping off a year that includes inauguration of free delivery to all undergraduates, a financial-aid program, and a change from a six- to a five-day-per-week production schedule.

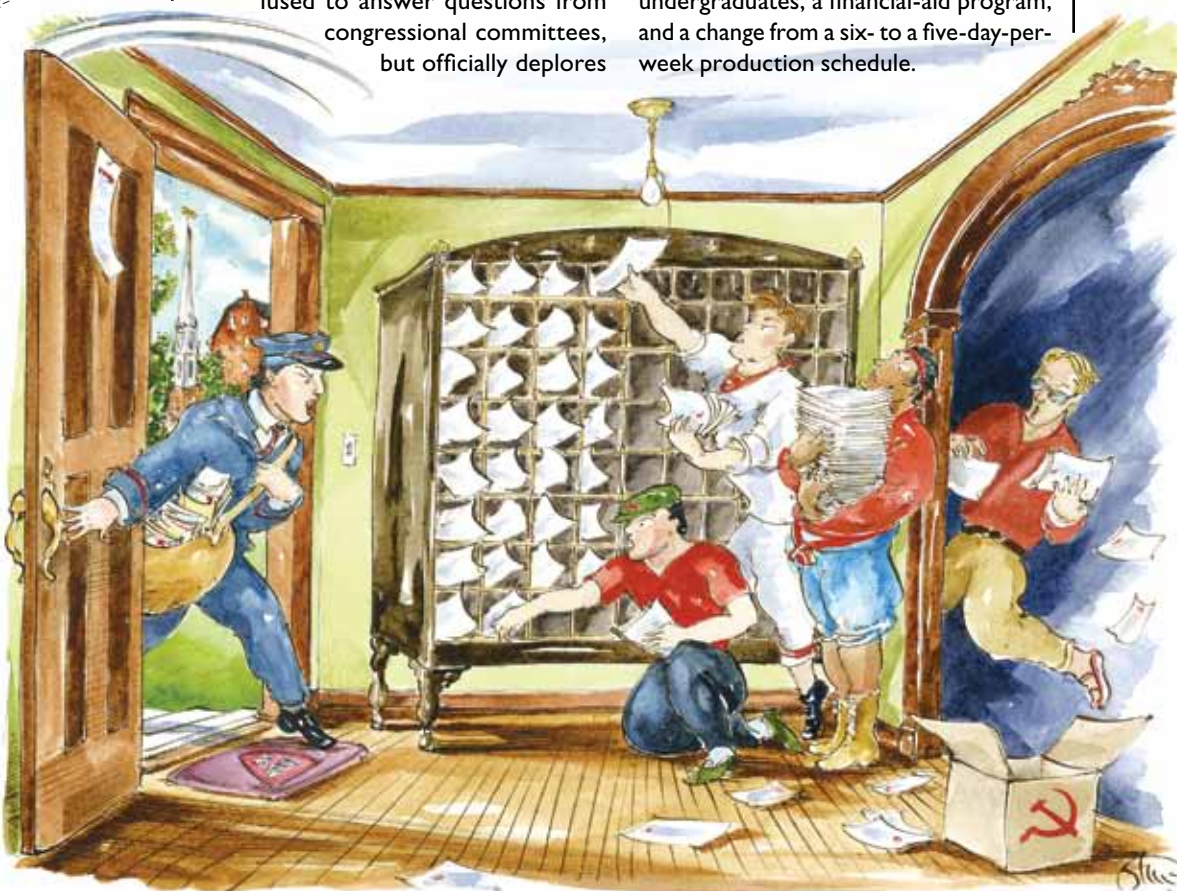


Illustration by Mark Steele

HARVARD PORTRAIT



Martin Puchner

“I’ve always been an impatient person,” says Martin Puchner, Wien professor of drama and of English and comparative literature. His impatience has served him well. A whirlwind of energy, the 43-year-old Puchner has already written three books—on theater, modernist literature, and philosophy—and edited many more, including the six-volume, 6,000-page third edition of the *Norton Anthology of World Literature* (2012). That “dizzying, impossible” project seemed an “insane endeavor, yet I found the scope of it thrilling,” he says; with seven co-editors and 10 consultants spread across the globe, e-mails poured in at any hour, day or night. Born in Nuremberg, Germany, he attended an alternative, Waldorf school and acted, directed, and composed music for many theatrical productions in high school and college. A restless, passionate traveler, Puchner did undergraduate work at Konstanz in Germany, Bologna in Italy, and the University of California at Santa Barbara and Irvine. He never actually received a bachelor’s degree, but earned a Harvard Ph.D. in comparative literature in 1998. While teaching at Columbia from 1998 until 2010, he evolved into a scholar of theater. He’s been at Harvard since then; as chair of the Committee on Dramatics, he’s helping to shape a new concentration (if not department) in theater. Puchner plays piano, violin, and viola for enjoyment, and lives with his longtime companion, professor of English Amanda Claybaugh, while globetrotting to research his next book, on the relation of literary works to geography. “Literature is invading the world, transforming the world,” he says, “naming places, and changing people’s relationship to where they live.”

that a course may require costly software, production, and computer investments to engage with students.

- **Fun—and function.** In its frisky youth, HarvardX is offering classes such as “Science and Cooking,” the applied-sciences course that uses cuisine to teach principles of physics and engineering. But some choices loom. Among the applications (or markets) for the free MOOCs are teaching global learners in developing nations, as well as U.S. college students at hard-pressed institutions who need basic courses, are shut out of over-enrolled classes required for their degrees, or simply need cheaper alternatives for higher education.

Educating the globe via great teaching online is a social good, highly motivating to many dedicated professors—but it may not be the foundation for a business plan, and may even undercut residential universities’ economic model. Professors from leading research universities may not be motivated to develop the best foundational courses for entering learners of any sort—suggesting that edX members like the University of Texas system may have a leading role to play here.

As the edX experiment proceeds, HarvardX has the challenging agenda of becoming both a learning *and* a doing organization, capable of applying its research to classrooms across the campus as readily as to students around the world.

For a fuller report, see <http://harvard-mag.com/edx-13>.

Campaign Chatter

AS HARVARD conducts the quiet phase of a major capital campaign, preceding a public launch this autumn (see “The Coming Campaign,” January-February, page 50), further hints of its scale continue to bubble up.

In naming Harvard Business School (HBS) dean Nitin Nohria “business dean of the year” in his Poets & Quants blog, veteran business reporter John A. Byrne reported that the school’s new fundraising goal would be \$850 million to \$1 billion. Only HBS (which raised nearly \$600 million; see “Bolstering Business,” May-June 2006, page 68) and Harvard Law School (which raised more than \$475 million; see “\$400 Million for Law,” September-October 2003, page 72) mounted capital drives

during the past decade. The University Campaign, in which the other schools participated, concluded at the end of 1999; since then, financial aid, facilities, and the faculties have all expanded—even as the 2008-2009 financial crisis eroded the value of the endowment sharply.

For a more direct comparison, consider that HBS's annual report for fiscal year 2012 indicates that it had 232 full-time equivalent faculty positions, revenues of \$546 million, a healthy operating surplus, and an endowment valued at nearly \$2.7 billion (about 10 percent below the peak value before the financial crisis). The Faculty of Arts and Sciences, on the other hand, has a ladder faculty more than three times larger—many of whom require expensive scientific laboratories; spent the past four years struggling to balance its \$1.2-billion budget; and its long-term investments (essentially, endowment funds) are worth nearly 20 percent (\$3.1 billion) less than at the peak.

Whatever campaign priorities are ultimately chosen, two sets of metrics provide guidance for Harvard's likely goals. First, as the University's annual financial reports disclose, Harvard has received gifts (for endowment and current use, and nongovernment research grants) of approximately \$600 million to \$650 million during each of the past four fiscal years (roughly on pace with the prosperous years just before, when the HBS and law-school campaigns were concluding; see table). A campaign, by projecting initiatives and needs that engage donors, aims to lift giving significantly for seven or eight years, suggesting a multi-billion-dollar aggregate target.

Second, there are competitive precedents. The University of Southern California set a \$6-billion goal for the campaign it announced in 2011. Stanford gained \$6.2 billion from a drive concluded that same year. (The Council for Aid to Education reported in late February that Stanford, the leading university fundraiser for the past eight years, brought in \$1.03 billion during 2012—the first institution to cross the billion-dollar threshold.) Rather than

Gifts to Harvard

Fiscal year ending June 30
\$ million

2012	\$650.4
2011	\$639.1
2010	\$597.0
2009	\$597.1
2008	\$690.1
2007	\$615.0

Source: Harvard University
Financial Reports

slack off, Stanford has already launched a new \$1-billion campaign for its hospital and medical research.

Separately, the importance of philanthropy has recently been underscored. In a very somber overview published for subscribers in mid January, Moody's Investors Service delivered "a downward shift in how analysts view even market leaders, the elite institutions with high demand and brand recognition," as *Inside Higher Education* reported.

According to that report, Moody's outlined "how every traditional revenue stream for colleges and universities is facing some sort of pressure": tuition; federal spending on research and financial aid; investment returns on and distributions from endowments; philanthropy; state appropriations (for public institutions); and healthcare revenues (for academic hospitals).

A Crimson example of those constraints appears in the Harvard Medical School dean's annual report for the fiscal year

that ended last June 30. The school's operating revenues decreased \$21.1 million (3 percent), as federal stimulus funding for research provided by the American Recovery and Reinvestment Act diminished, but expenses increased \$5.7 million (1 percent), yielding an operating deficit of \$28.8 million. Research grants and contracts accounted for 47 percent of school revenues in that fiscal year—and the reported results preceded the beginning of the federal-budget "sequester" on March 1, 2013. That action imposes a \$1.6-billion reduction in National Institutes of Health funding for the balance of the federal budget year, putting further pressure on the school's (and indeed the University's) principal source of sponsored-research support.

The bleak Moody's forecast—and its suggestion that costs must come down so institutions can invest in technology and new programs—aligns closely with the letter by Harvard vice president for finance Daniel S. Shore and University treasurer James F. Rothenberg in the University's fiscal year 2012 financial report (see "Sober Finances," January-February, page 47). They ended by underscoring the importance of "a fundraising campaign." Of late, external developments have only reinforced that message.

Commencement Central



JON CHASE/HARVARD NEWS OFFICE

Your One-Stop Source for Commencement News

Visit harvardmagazine.com/commencement to find out about this year's guest speakers—including media pioneer Oprah Winfrey and TED-talk creator Richard Saul Wurman. Enter the survey by voting for the most significant person to give a Harvard Commencement address. You'll also find a detailed events guide for Commencement 2013, and can check back during Commencement week for continuous news coverage, photographs, audio, and video of the festivities.

HARVARDMAGAZINE.COM/COMMENCEMENT

My Families

by CHERONE DUGGAN '14

I DIDN'T KNOW what avocados were until I met my host parents. I mean, I'd kind of heard of them, but had never really been fully acquainted. I definitely didn't know how or when to eat them—or even if you could eat them at all. I didn't drink coffee, and had never gone to dim sum, a baseball game, or yoga. I had never even contemplated trying sushi. These things all mildly scared me, in a strange, uncertain kind of way. Needless to say, I didn't know my way around Boston or Cambridge either—blocks, subways, and sidewalks were all new, and took time getting used to.

Now, when tourists ask me where to get the best pastries in the North End, or where this-or-that street is, I know exactly what to tell them, and can even give directions by the block. I know how to grind coffee beans and cut avocados just so, and have a mini T map imprinted in my mind and a larger map of the world imprinted in my imagination, dusted with far-flung tastes and travel stories my host parents have introduced me to. When I'm homesick, worldsick, and tired of dorm life, I head to my host family's house and eat Irish dinners and Saudi Arabian dates, and somehow, they all go together. Now, Boston is more mine than Dublin is, and I loiter around my host parents' house on the weekends, completely at home, in my pajamas, a mere acquaintance of the girl who first arrived at Boston Logan and didn't know them.

BACK IN IRELAND, before going anywhere, I was sent a list of Harvard interview-

ers who lived there. I was told to contact whichever one I wanted. After looking through the list, I contacted the woman I thought I'd click best with, nerves all a-jitter. She e-mailed back and said she didn't live in Ireland anymore, but wished me the best of luck with my application. When I got my host-family assignment on the 16th of August 2010, I was matched with her and her husband. In their preference form, they mentioned that they had lived in Ireland, and would be happy to host Irish students; as the only Irish student in my class, and having signed up to participate in the program, we were paired. And it turns out that I, being theirs, am one of the luckiest host students there is.

The Host Family program starts in freshman year. Matches—from which

“informal friendships” are designed to spring—are facilitated between freshmen and alumni and other Harvard affiliates who live around Boston. The Freshman Dean's Office hosts a few events and does the pairing, and from there, the pairs decide where to go and what to do. These pairings are intended to help ease freshmen into college life, and are most marketed to students from abroad for that reason, although any student can sign up. (At the moment, I'm the only one of my host parents' host students who is not American—and one of their students is even from Massachusetts.) About 10 percent of the freshman class pairs up, and there are usually more students who sign up than families—so some families have more than one student each year. The host-family pairings are like any relationship: some flop, some flail, some falter, and some never even materialize. Mine, however, continues strong, almost three years later and continually counting.

Really, my entire host-family situation is just a bit too good to be true. My host “Mom” went to Harvard, and my host “Dad” emigrated from Ireland to America in the 1990s. They're the same age as my parents,

but have lived completely different lives, in completely different places—in New York, Kansas City, Dublin, Boston. They have no children, unlike my parents' five, and have traveled a lot more. We can talk about school and home, about where I come from and where I can go. And those times when I just want to go home, but can't, I go to theirs.

There, in the winter, my host mom and I sit by the fire, we work, we chat, we snooze, we drink tea, we go out for lunch. There, too, my older “host sister,” another host student in the year above me, and I ‘veg’ out, work on papers, and ruminate on life, all warm and cozy. There, in the summer, we sit outside in the sun, with Sunday newspapers crinkling in the breeze, and we go



Illustration by Kelsey Garrity-Riley

A Union Contract

After protracted negotiations (the previous agreement expired last June 30) and the involvement of mediators, the 4,600-member Harvard Union of Clerical and Technical Workers (HUCTW) and the University came to terms on a new contract, adopted by a vote on April 2. The contract, extending to September 30, 2015, provides a typical member with three salary increases averaging 3.4 percent each, plus three “option days” over the life of the contract, which members can use as discretionary personal days or can cash out at 75 percent of each day’s pay. Although the contract extends beyond three years, the annual increases are well above the University’s publicized offer of 2.8 percent, 2.5 percent, and 2 percent increases. Unresolved benefits questions will be referred to a Health Care Group for further, continuing negotiations.

Allston Advances

The Boston Redevelopment Authority in mid March approved Harvard’s plan to relocate campus-services facilities within Allston, making way for redevelopment of a site at Western Avenue and North Harvard Street for a housing and retail complex (see <http://harvardmag.com/services-13>). The campus-services complex—including police training, recycling, and vehicle management—is controversial because its new site, although at the rear of the future home of the School of Engineering and Applied Sciences (see <http://harvardmag.com/seas-13>), is near private residences. To secure regulatory approval, Harvard agreed to make the facility temporary, to restrict night deliveries, and to proceed with construction of a nearby park.

Overseers in Chief

Chemist David W. Oxtoby ’72, president of Pomona College, has been elected president of the Board of Overseers, the University’s junior governing board, for the 2013-2014 year. Lynn Chang ’75,

Brevia



TABLES TURNED. Oprah Winfrey, who usually plays host on her talk show, will be the guest—and featured talker—in Tercentenary Theatre on May 30, when she appears as the principal speaker at Commencement day’s Afternoon Exercises—the annual meeting of the Harvard Alumni Association. In a statement accompanying the announcement, President Drew Faust, who will also address the throng, noted, “Oprah’s journey from her grandmother’s Mississippi farm to becoming one of the world’s most admired women is one of the great American success stories.”

violinist and violin professor, will serve as vice chair of the board’s executive committee. They succeed Richard A. Meserve, J.D. ’75, president of the Carnegie Institution for Science, and film producer Lucy Fisher ’71, respectively, who conclude their one-year terms following Commencement.

College Cohort and Costs

Including the 895 applicants accepted by

the early-action deadline last December, Harvard College offered admission to a total of 2,029 of 35,023 applicants (up from 34,303 last year) seeking a place in the class of 2017—a rate of 5.8 percent (fractionally below the 5.9 percent admission rate last year). Undergraduates face a bill for tuition, room, board, and fees of \$56,407, up 3.5 percent (\$1,911) from \$54,496 in the year now ending. (The term bill increased 3.8 percent from 2009-2010 to 2010-2011, and a like percentage in the subsequent year, and 3.5 percent from 2011-2012 to the current year.) Undergraduate financial aid is budgeted to increase \$10 million (5.8 percent), from \$172 million currently. Among peers, Penn announced a 3.9 percent increase in its undergraduate term bill, to \$58,812, and a 5 percent increase in the aid budget, to \$188 million. Yale will charge \$57,500, up 4 percent from the current year, and projects \$119 million in financial aid, unchanged from the current level.

Nota Bene

SUMMER HUMANITIES RESEARCH. SHARP, the new Summer Humanities and Arts Research Program, beginning this year, joins similar programs in the sciences, social sciences, and business-oriented research. Each offers undergraduates an immersion experience in their discipline. SHARP participants receive 10 weeks of lodging and meals, and can apply to work for projects involving philosophy, the Widener Library collections, digital mapping or art, and arts-based literacy.

TEACHING AND LEARNING LEADER. Robert Lue has been named the initial Menschel Faculty Director of the Derek Bok Center for Teaching and Learning. His selection follows a protracted search for a faculty member to provide academic direction for this venue for teacher training and pedagogical development within the Faculty of Arts and Sciences. The busy Lue, director of life-sciences education and

KATHERINE TAYLOR/HARVARD NEWS OFFICE

**Robert Lue**

professor of the practice of molecular and cellular biology, is also faculty leader of HarvardX (see page 48), the University's online education venture—a sign of rising interest in applying teaching technologies to classrooms and for student learning.

EXECUTIVE-EDUCATION INVESTMENT. André Esteves, co-founder and CEO of BTG Pactual, the largest investment bank in Latin America, based in Brazil, has made a gift (of undisclosed size) to Harvard Business School to support the renovation of Baker Hall, an executive-education residence. The project is part of an extensive renovation and expansion of HBS's executive-education facilities, including construction of the new Tata Hall and replacement of Kresge Hall (see <http://harvardmag.com/chao-13>). Esteves is a member of the school's Latin America Advisory Board.

QUIZ CHAMPIONSHIPS STRIPPED. National Academic Quiz Tournaments, LLC, announced in March that a review of its computers revealed that Andrew Watkins '11 had accessed 2009, 2010, and 2011 pages with quiz questions before tournaments. Although the organization said it had not found evidence that the access was taken advantage of “in game situations,” the access violated “expectations of fair play.” It thus vacated four Harvard national cham-

pionships from competitions during those years; Watkins was a team member.

LIBRARY LEADER LEAVES. Mary Lee Kennedy, since 2011 the senior associate provost for the Harvard Library—responsible for steering the University's libraries toward a consolidated governance structure and shared back-office services—is departing in mid May to become chief library officer of the New York Public Library.

SUSTAINABLE INVESTOR. Harvard Management Company plans to hire a vice president for sustainable investing, who will research and understand “ESG (environmental, social, and governance) issues related to the Harvard endowment portfolio,” according to the job notice, and serve as the expert on “new issues of interest emerging on our campus and others, including social-impact investing.” Harvard recently agreed to create a social-choice fund (see <http://harvardmag.com/fuel-13>), and students concerned about climate change have advocated divesting investments in fossil-fuel companies.

MISCELLANY. Clinical professor of pediatrics emeritus T. Berry Brazelton has received the Citizens Medal, the nation's second-highest civilian honor; read about his work in “Early Learning” (January-February 2012, page 27). Cabot professor of biology Richard Losick, a leader in improving science teaching (see “The Excitement of Science,” July-August 2006, page 56), has been recognized with the Cox Prize for Excellence in Science Teaching—a delightful surprise for the honorand, who helped spur creation of the award in 2011; he will apply the proceeds, totaling \$50,000, to his research. Among the recipients of the first Breakthrough Prize in Life Sciences awards, including

\$3-million grants, is Eric Lander, professor of systems biology and head of the Broad Institute of Harvard and MIT, the genomics research center. As previously announced, the Inn at Harvard is closing for conversion into undergraduate swing space as House renewal ramps up; two Harvard-owned apartment buildings on Prescott Street will also be converted to College use for the same purpose, along with units along Massachusetts Avenue already in use during the Old Quincy reconstruction. Knowles professor of molecular and cellular biology Jeff Lichtman, a specialist in neuroscience imaging (see “Shedding Light on Life,” May-June 2008, page 40), has been named the first Santiago Ramón y Cajal professor of arts and sciences, a five-year appointment recognizing Faculty of Arts and Sciences members for innovative research. The new chair's name recognizes a pioneering neuroscientist. Harvard Art Museums announced that it is on schedule to open the renovated Fogg complex, at 32 Quincy Street, in the fall of 2014. To prepare for reinstallation, the Sackler Museum galleries, which have been used to display part of the collections during construction, will close after this June 1. In the interval, virtual access to the museums' collections is available at www.harvardartmuseums.org/art.

Knowles professor of molecular and cellular biology Jeff Lichtman, a specialist in neuroscience imaging (see “Shedding Light on Life,” May-June 2008, page 40), has been named the first Santiago Ramón y Cajal professor of arts and sciences, a five-year appointment recognizing Faculty of Arts and Sciences members for innovative research. The new chair's name recognizes a pioneering neuroscientist. Harvard Art Museums announced that it is on schedule to open the renovated Fogg complex, at 32 Quincy Street, in the fall of 2014. To prepare for reinstallation, the Sackler Museum galleries, which have been used to display part of the collections during construction, will close after this June 1. In the interval, virtual access to the museums' collections is available at www.harvardartmuseums.org/art.

**Eric Lander**

TONY GENICOLA/THE NEW YORK TIMES

**T. Berry Brazelton**

COURTESY OF TOUCHPOINTS

**Richard Losick**

ROSE LINCOLN/HARVARD NEWS OFFICE

**Jeff Lichtman**

KRIS SNIBBE/HARVARD NEWS OFFICE

NEW UNIVERSITY PROFESSOR. Cass R. Sunstein '75, J.D. '78, who became Frankfurter professor of law in 2008 before serving as administrator of the White House office of information and regulatory affairs during much of President Obama's first term, has been appointed Walmsey University Professor—the rank reserved for Harvard's most distinguished faculty members. He succeeds constitutional-law scholar Frank I. Michelman, who held the chair from 1992 until he took emeritus status last year. Sunstein was a member of the University of Chicago law faculty before he returned to Cambridge. The announcement of his new professorship cited his work in behavioral economics and public policy (he is coauthor of *Nudge*, with Richard Thaler), constitutional law and democratic theory, jurisprudence, administrative law, and regulation of risk.



grocery shopping when I say things like, “Oh, we’re out of milk.”

And, when my home came to Harvard, my host family hosted. It was there, with my host family, that my Mum and sister stayed when they came to visit me last semester, during Hurricane Sandy—when we all huddled inside and chatted on couches, wrapped in blankets. And when I was home in Ireland over winter break, my host dad also happened to be there, visiting his own family. He ended up meeting me and mine in the city center for brunch, and melded perfectly into our family day, which involved a lot of driving, a lot of laughing, and a long, rambling trip to IKEA to get my sister a chair.

Back in Boston, when I’m tired, or sad, or don’t know what to wear—it’s my host parents whom I go to. My host parents

have folded into my life so thoroughly that I simply can’t imagine what my Harvard experience would be like without them. With them, home and Harvard coalesce in a way I never thought they would. My parents and I met them before I even got to campus, before freshman year began. In retrospect, given the place they hold in my life, this seems rather fitting.

MY TWO ROOMMATES, who are also international students, and many of my friends don’t have a host family. For them, getting off campus for a while is usually a lot harder. For me, it’s easy. I constantly skip back and forth, between dorm and dining room, futon and couch. My host parents and I go out to plays and movies, and restaurants I’d never know to go to. Before I go traveling the world (as I some day hope to), they are training my

palate—taking me to eat in the restaurants of the countries I want to go to, a surrogate “travel on the cheap.” Now I can use chopsticks and know that Irish butter, salt, and pepper are not the only type of seasonings. And now, when I least expect it, I get cravings for things like avocados and sushi.

Hearing my host family’s stories and living in their lives has made me realize how much the world has to offer. Not in terms of tastes or things or all those other clichéd worldly feelings, but in terms of people. For never, in all my imaginings of all the strangest food, and far-fetched stories, could a pairing be so perfect, and people be so kind.

*Berta Greenwald Ledecy Undergraduate Fellow
Cherone Duggan ’14 officially lives in Winthrop House, but is frequently found in another home in Boston.*

SPORTS

Up, Up, and Over!

Nico Weiler clears inhuman heights, and not by human instinct.

“IT’S COMPLETELY against human nature to run as fast as you can and try to catapult yourself over a bar,” says Nico Weiler ’12 (’13). Yet Weiler has managed to override those natural tendencies well enough to perform this irrational act 20 or 30 times a day in practice and, at the 2012 NCAA Championships in Des Moines, to clear a bar 5.50 meters (18 feet, ½ inch) high. At the 2012 Heptagonal (Ivy League championship) indoor meet, Weiler vaulted 5.38 meters (17 feet, 8 inches). These are the highest outdoor and indoor vaults, respectively, in Harvard history.

Pole-vaulting “is very mental,” Weiler says. At the ultimate moment, when you plant the pole and launch your leap, “you get every doubt out of your head, and just go for it,” he explains. “You visualize yourself clearing the bar and ignore any other feelings.” Assistant coach of track and field Brenner Abbott says, “Nico is very gifted mentally. This event requires supreme confidence. He has the ability to see what’s possible, rather than the obstacles to it.”

Successful pole vaulting has two physi-

cal requirements: speed and gymnastic ability. It’s about *momentum*—not, as you might think, about using the pole as a lever to muscle yourself over the bar with arm strength. (“If you’re pulling with your

arms, you’re in trouble,” Weiler says.) The leap is essentially a matter of converting horizontal momentum into vertical momentum with maximum efficiency. Speed provides the former, and gymnastic skill handles that seamless conversion. Core strength matters, as it helps flip one’s body from a running posture to a vertical, inverted position on the way up to the bar.

Foot speed fuels both pole vaulting and the long jump, and Weiler excels in both. As a sophomore he won the pole vault at the Harvard-Yale track meet and also took the long jump with a leap of 6.64 meters (21 feet, 10 inches)—and as a junior, at the



Weiler on his way up to clear the bar (green, at left). Note the bend in his pole, far below. The orange foam pads cushion landings.

same meet he leapt even farther, 6.85 meters (22 feet, 6 inches) for second place. He can sprint, too: in high school in California, Weiler ran the 100-meter dash in 11.23 seconds, and once, Harvard head track coach Jason Saretsky inserted him on a leg of Harvard's 4 x 100 meter relay, though Weiler says that was just "for fun."

Yet speed without technique won't get you very high. First, you carry the pole with the forward end raised aloft and sprint down the runway toward the bar, using 16 to 18 strides. Start lowering the pole toward the end of the run, as "it can add to your speed," Weiler explains. "The pole has weight and dropping it down can pull you forward." On the last two steps, raise the pole above your head, with your dominant hand on top. Then accelerate and plant the other end into the eight-inch-deep box on the ground, extend your arms fully and *jump up* ("similar to the triple or long jump.") "The pole is bent; you get upside down, your head down, feet up, completely inverted," he says. "Then the pole *unbends*, and when it's completely unbent, you are straight up and go over. Ideally, you don't see the bar until you are crossing over it, facing the ground."

Though the vaulter is high in the air, "if you do it right, it's not dangerous," Weiler says. For one thing, of course, there's a big pillow in the landing pit—one meter thick, of foam rubber. You can land any

way you want—except standing up, which could roll an ankle. A key safety factor is to "hold onto the pole," until ready to cross the bar, he says. "He [the pole] is your friend. If they feel they are in a dangerous situation, a lot of people panic and let go of the pole, which puts them in more danger."

That pole comes with various brand names, weight ratings (a measure of flexibility), compositions, and lengths. A typical pole will weigh about eight pounds but it feels much heavier because the mass stretches out along the pole's 5-meter (16.5 foot) length. Weiler uses a fiberglass pole, but he has also jumped with carbon-fiber poles in the past: "They bend a bit lower and feel different." (It's not only how much a pole bends, but *where* the bending occurs.) Vaulters progress from softer, more flexible poles to stiffer ones. In general, "a stiffer pole is better," he says. "It catapults you harder and stronger—like a stiffer spring, there's more power when it releases."

Poles sometimes break; it has happened four times to Weiler. "It sounds like a gunshot and it feels pretty crazy," he says. The problem then isn't the landing, as poles break when maximally flexed; at that point you have enough speed to land in the pit. But when the flexed pole snaps, the break vibrates the piece you are holding;



JIM HARRISON

on one occasion, those vibrations broke a bone in Weiler's left thumb. Another time, a fiberglass splinter stuck in his hand.

Born in Stuttgart, Weiler comes from a pole-vaulting family: his father, Roland, and older brother, Sascha, both vaulted. At age 11, Weiler started vaulting himself after watching his brother perform in practice: "He had a blast." Weiler learned vaulting using the "Russian technique," which involves a lot of drills and practicing before taking a real jump—he calls it the "safe thing to do." (This technique helped Ukrainian Sergey Bubka become the greatest pole vaulter in history; now long retired, he broke the world record 35 times and holds both the outdoor and indoor records, at 6.14 meters or 20 feet, 1¾ inches, and 6.15 meters, respectively. Both marks have stood for nearly 20 years.)

In 2007 Weiler won the world under-18 championship with a record-setting vault of 5.26 meters. As an international high-school student, he lived with a family in Los Gatos, California, in Silicon Valley. He was, of course, intensively recruited and avoided programs where he would lose scholarship support if injuries kept him off the field. At Harvard, he concentrates in economics with a secondary field of astrophysics. After college, he plans to settle in Berlin, which he calls "the Silicon Valley of Germany."

Meanwhile, he enjoys reaching heights just a tad short of the astrophysical, as well as the company of fellow athletes in the understandably small world of pole vaulting. "I've met some awesome people," he says, adding, with a grin, "Most pole vaulters are a little crazy in the head." At meets they share tips and appreciate their competitors' successes. "In the end," he says, "everyone wants to beat gravity."

—CRAIG LAMBERT



GILT TALBOT/HARVARD ATHLETIC DEPARTMENT

ATTACKER AISHA PRICE '13, women's water polo co-captain, is one of Harvard's leading scorers: she finished last year with 65 goals and 24 assists. An alumna of the Punahou School in Honolulu, the versatile Price also played as a midfielder for the Crimson soccer team. This year, for the first time in its 13-year history, the NCAA women's water polo championships will be held in the northeast region of the country. The tournament will bring together the country's eight top teams at Harvard's Blodgett Pool from May 10 through 12.

Leading Man

A Broadway actor on the “true spark of theater”

NICK WYMAN '72 has done something very rare: made a living as “an entertainer, a mere mummer,” primarily in live theater, for 40 years. As president of the Actors' Equity Association (AEA), celebrating its centennial this year, Wyman wants to make the same “gift of a career in this frustrating, exhilarating business” more possible for its nearly 50,000 members: actors and stage managers from Broadway to the smallest local theaters. “My ambition,” he says, “is to figure out how to expand opportunities for them.”

The statistics are disheartening. If only one aspiring actor and actress at each of America's 90,000 high schools pursue a career, that's 180,000 swarming to auditions each year. Meanwhile, Wyman estimates that there are only about 200,000 union-card-carrying actors (members of AEA and/or the nation's three other performing arts unions*), most of whom work part-time, at best. “A little less than half our own members even work at all,” he points out, “and only at some point during the year.” Also “appalling” are the wages. The median earnings for the 2011 season for an AEA member were \$7,256.

Wyman's own run has defied those odds. He has 15 Broadway credits and has been in countless regional productions, films, TV shows, radio spots, voiceovers, and more than a hundred commercials. Some may recall his edgy portrayal of the contract terrorist Mathius Targo in *Die Hard with a Vengeance* (he kicks Bruce Willis in the face, but is killed in the end), and a viciously funny Thénardier in *Les Misérables* on Broadway.

In part, this is due to genes. Wyman's genial blond-haired, blue-eyed looks and broad-shouldered physique have often led to roles as moral authority figures: doctors, judges, or fathers. In March, he played Henry Woodhouse, a patrician newspaper publisher, in the debut of *The Single Girls Guide* at the

*The other unions are Screen Actors Guild-American Federation of Television and Radio Artists, the American Guild of Musical Artists, and the American Guild of Variety Artists.

Capital Repertory Theatre in Albany, New York. The stylish 1960s-era musical romp revolves around Woodhouse's daughter, Emma, a Manhattan advice columnist forging her way in a male-dominated culture (à la Helen Gurley Brown). Invariably, her plans to promote alternatives to marriage go awry, and Woodhouse assures her that life is imperfect: “perfect is—boring and dead.” “Perhaps there is a world of technicolor, where life plays out like pictures on a screen,” he sings, with a tenderness belied by his hulking, six-foot-five frame. “I'd rather have the mess of love.

unsympathetic” streak: “If people don't meet my expectations, I can be rude or even abusive,” he reports. “I try not to be that way.”

On stage, though, those less-than-lovable traits can shine. Using his outsized nose and a distinctive facial crease that mar his look of WASPy erudition, Wyman easily transforms into a villainous, mangled-brow bully. For almost 2,500 performances, from 1997 to 2003, he revealed in the “feral fierceness” of Thénardier. Amid a tear-jerking drama of redemption filled with poverty and death, “there is one juicy, funny thread, and that is you,” he says of the role. “The audience is thrilled when you appear because they feel like, ‘Oh my God, give us a break. Make us laugh.’ And you do. But Thénardier is not merely a clown. He has a very dark side. He is there scrabbling around to make money to put the next day's bread on the table—and pulling people's teeth out of their heads to get it.”

Wyman has held the elected, unpaid post of AEA president since 2010, following 20



Nick Wyman (on the set of *The Single Girls Guide*) promotes fair pay for hard-working actors.

I'd rather have the fight. 'Cause love's gone in an instant. When you find it, hold it tight.”

“He's an audience favorite, of course,” says Capital Repertory's producing artistic director, Maggie Mancinelli-Cahill. “They like the authenticity of his relationship with his daughter. Nick is also charming, funny, an eloquent speaker, and has wonderful manners—all of which play into the role. He is the guy who pulls the chair out for you at the table.”

Conversely, Wyman is terrific at playing what he calls “powerful, rich jerks in suits.” Casting directors must sense an “arrogant,

years on the governing board. In 1987, cast as Firmin in *Phantom of the Opera*, he heard rumors that the show might be canceled due to a conflict between the union and its producers over casting Sarah Brightman, star of the London production, because she wasn't American. “I realized,” he explains, that “the people making the decision had a direct impact on my life and livelihood—and I am enough of a control freak that I wanted to be a part of the decision.”

Pre-union, actors were routinely exploited. They rehearsed for days without pay, were

left stranded on the road if shows closed suddenly, and had to supply their own makeup and costumes. Today, union contracts with more than 100 U.S. theatrical organizations address those issues, as well as health, disability, and pension benefits, and, increasingly, digital use of images. Because acting is such physical work, rules govern what time actors show up for performances and how long they can rehearse (only “10 out of 12” hours during the arduous technical runs that precede opening day). Monitored, too, are the angle at which a stage is raked, custom-fitted elbow and knee pads, the cleaning of costumes and hairpieces, and exposure to special-effect make-up and chemicals (e.g., smoke and fog machines). Most pressing, Wyman reports, “is maintaining decent wages and working conditions in the face of economic difficulties and downward pressure on ticket sales, subscriber rolls, and donor contributions.”

His roles straddle two of America’s frailest institutions: unions and live theater. (Third in line, he notes, are probably newspapers.) “Look, there’s never been an acting bubble: ‘Hey, come on down, money’s growing on trees here at the theater!’” he says. “We do this because we are junkies. We have to. We’ve gotten a taste of this in elementary or high school when we were on stage and people laughed or applauded or cried or, that most precious of audience reactions: utter, breath-holding silence.”

In this, the union also protects actors from themselves. “They will do a 29-hour play-reading for \$100 and a bottle of water,” Wyman says. “There are theaters in L.A. where actors work for weeks on end—for carfare.” Wyman himself worked for only a little more than that at the Capital Repertory Theatre (“one-and-a-half times what I would make collecting unemployment,” he notes). Accommodations were primitive and the six-day weeks in Albany, away from his family, precluded auditioning for other jobs.

He met his wife, Juilliard graduate Beth McDonald, in 1978, while they were playing Lennie and Curly’s wife in *Of Mice and Men* at the Pittsburgh Public Theatre. “My line about that is, ‘As I broke Beth’s neck eight times a week for six weeks, we fell in love,’” he says. They married a year later. Their grown daughters live in New York City: Caitlin is a fashion buyer at Saks Fifth Avenue; Madeline is a kindergarten teacher. Their son, Tommy, has Rubinstein-Taybi syndrome and lives with the Wymans in Yonkers.

Suddenly Wyman tears up. “I just made a

connection,” he says. Lennie and Tommy are both overgrown children who “need to be protected,” he explains, taking a deep breath. “I hope my son’s life ends better than Lennie’s.”

It’s a shared moment of vulnerability: the essence of why live theater is so powerful and, Wyman believes, so critical to a cohesive society. “Theater brings you things you’re not going to see on TV or in the movies, things that take place in the same room with you,” he explains. “Like that sense you had when I caught my breath in talking about Tommy.”

Digital screens, he thinks, remove people from the universality of visceral, intimate human connections. “Everyone is glued to their Facebook feeds or on their smart phones or their iPads and laptops,” he adds, getting heated. “We’re all staring into each other’s screens when we should be staring into each other’s eyes. And it’s a loss.”

The “true spark of theater” is most palpable at smaller theaters like the 286-seat “Cap Rep.” “We are the *real* 3-D,” director Mancinelli-Cahill makes clear. The nonprofit, founded in 1981, draws diners and shoppers to Albany’s architecturally stunning, yet often depopulated, downtown. Given its League of Resident Theaters (LORT) AEA union contract, Cap Rep audiences can expect “a certain professional-level production,” she says, reflecting national standards and seasoned union workers.

On a \$2.5-million annual budget, Cap Rep puts on 250 performances, year-round. None are plays that tour from Broadway. Mancinelli-Cahill keeps classics alive, and helps launch new creative works (crucial to furthering the art form of theater itself) such as *The Single Girls Guide*, even at financial risk. Audiences may shun shows they’ve never heard of, but actors flock to them. “It’s very exciting to do new work. It’s still inchoate,” says Wyman, who collaborated with the playwright and lyricist to hone his role. He wouldn’t have sacrificed family time to do *Hello, Dolly*.

Big-budget commercial theater is relatively successful: according to The Broadway League, more people see a Broadway show than see all of New York City’s professional sports teams, and the shows generate higher gross earnings. Yet most regional theaters limp along. “The rich get richer and the poor go out of business,” Wyman says. Live theater is being replaced with more reliable crowd-pleasers like “concerts, cabarets, or open-mic nights” that further erode opportunities for his members.

Armed with an English literature degree,

Wyman calls himself a “true Harvard man, a wordaholic possessed of a vocabulary that I can beat the crap out of anyone else on the planet with.” He makes use of his talent in writing and speaking whenever possible. In Albany, that meant impassioned talks with reporters and speeches to playgoers and Cap Rep’s donors. Such chivalric schmoozing suits him. “I am superficially charming,” he allows. “If I can convince some of the relatively deep pockets in the area to pony up money or to see more value in theater, that will benefit my members—and the world.”

Raised in affluent Summit, New Jersey, where his father was a carpet-company executive, Wyman went to Harvard “because Yale didn’t pay me enough,” he quips. “I only applied to Harvard, Yale, and Kalamazoo, because I knew I was a catch.” He planned to major in psychology and become a lawyer, although he noted Yale’s drama school and thought, “Maybe I’d do some acting.”

Lured to Cambridge by a Harvard National Scholarship, he made good friends, appeared in about a dozen shows—Hasty Pudding, Gilbert and Sullivan, and Loeb Theatre productions—and failed at rowing. Some classmates “still have bruises on their backs from my hitting them with an oar because I was so out of sync.” As for academics, to this day, Wyman can recite the words, from the English department head tutor, that quashed his hope of becoming a professor: “Your grades in English are too erratic to warrant having a senior member of the faculty read your thesis.”

This rejection made it easier to eschew the typical trajectories of an Ivy League education in favor of acting, “a job that brought me joy.” He moved to Manhattan, graduated from the Circle in the Square Theatre School, and by 1974 had earned his Equity card as an understudy in the touring company of *Grease*. Then in its original heyday, the musical and its gang-of-guys antics were about as much fun as it gets for a fresh young actor in love with his trade.

Now 62, Wyman is a veteran of the stage—he says “theater hack,” in self-mocking moments—and of the unromantic slog required to make it in the stage *business*. Ardor for “cool parts” in megahit musicals has lessened. “It’s about, ‘What am I doing with my life? What have I learned that I can share?’” he says.

With his daughters grown and three pensions (thanks to actors’ unions), Wyman is now a little freer to engage in art over commerce. *The Single Girls Guide* role was one he naturally covets: nurturing father. “It’s dif-

ficult in the face of the world and the acting business, which constantly say 'No!' and beat the joy out of life, to maintain one's faith, enthusiasm, and spirit," he says. "My job is to let my members know the merit and wor-

thiness of their choice: that they are doing a good thing, and should keep on trudging."

On March 30, the Albany show ended its run. Wyman will attend galas and award ceremonies around the country honoring the

union's centennial. A PBS show he hoped to shoot in Prague never panned out. With little else waiting in the wings, "I am," he says, "like my members, looking for work."

~NELL PORTER BROWN

Vote Now

THIS SPRING, alumni can vote for five new Harvard Overseers and six new elected directors of the Harvard Alumni Association (HAA). Ballots, mailed out by April 1, must be received back in Cambridge by noon on May 24 to be counted. Results of the election will be announced at the HAA's annual meeting on May 30, on the afternoon of Commencement day. All Harvard degree-holders, except Corporation members and officers of instruction and government, may vote for Overseer candidates. The election for HAA directors is open to all Harvard degree-holders.

Candidates for Overseer may also be nominated by petition, that is, by obtaining a prescribed number of signatures from eligible degree-holders. The deadline for petitions passed on February 1; no candidates were presented.

For Overseer (six-year term):

Susan L. Carney '73, J.D. '77, Hamden, Connecticut. Circuit Judge, U.S. Court of Appeals for the Second Circuit.

Christopher B. Field '75, Stanford, California. Director, department of global ecology, Carnegie Institution for Science; Melvin and Joan Lane chair in interdisciplinary environmental studies, Stanford University.

Deanna Lee '84, New York City. Chief communications and digital strategies officer, Carnegie Corporation of New York.

Walter H. Morris Jr. '73, M.B.A. '75, Potomac, Maryland. Retired principal, Ernst & Young LLP.

Gilbert S. Omenn, M.D. '65, Ann Arbor. Professor of internal medicine, human genetics, and public health and director of the Center for Computational Medicine and Bioinformatics, University of Michigan.

Sanjay H. Patel '83, A.M. '83, London. Managing partner and head of international private equity, Apollo Management International LLP.

Ana Maria Salazar, J.D. '89, Mexico

City. Anchor, *ImagenNews/Living in Mexico/El Primer Café*; CEO, Grupo Salazar.

Gwill York '79, M.B.A. '84, Cambridge. Managing director and co-founder, Light-house Capital Partners.

For elected director (three-year term):

Theodore "Ted" H. Ashford III '86, Wilmington, Delaware. President, Ashford Capital Management.

Richard R. Buery Jr. '92, New York City. President and CEO, The Children's Aid Society.

Patrick S. Chung '96, J.D.-M.B.A. '04, Menlo Park, California. Partner, New Enterprise Associates.

Shilla Kim-Parker '04, M.B.A. '09, New York City. Senior director, strategy and

business development, Lincoln Center for the Performing Arts.

Lori Lesser '88, J.D. '93, New York City. Partner, Simpson Thacher and Bartlett LLP.

Barbara Natterson Horowitz '83, A.M. '83, Los Angeles. Professor and cardiologist, David Geffen School of Medicine at UCLA; author.

Julie Gage Palmer '84, Chicago. Lecturer in law, University of Chicago Law School.

Argelia M. Rodriguez, M.B.A. '84, Washington, D.C. President and CEO, District of Columbia College Access Program.

Jacques Salès, LL.M. '67, of Paris. *Avocat à la Cour* (attorney at law), Ginestie Magellan Paley-Vincent.



Susan L. Carney

Christopher B. Field

Deanna Lee



Walter H. Morris Jr.

Gilbert S. Omenn

Sanjay H. Patel



Ana Maria Salazar

Gwill York

OVERSEER



Theodore "Ted" H. Ashford III

Richard R. Buery Jr.

Patrick S. Chung



Shilla Kim-Parker

Lori Lesser

Barbara Natterson Horowitz



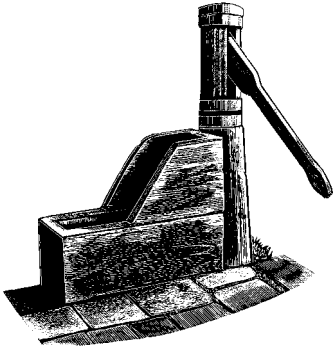
Julie Gage Palmer

Argelia M. Rodriguez

Jacques Salès

DIRECTOR

“Lighthouse Thomas”



“Your wooden arm you hold outstretched to shake with passers-by.”

IN COMMENCEMENT SEASON, drudges in the press searching for good copy like to celebrate someone who overcame gargantuan obstacles to get a degree. Stepping back in time, Primus points to Charles Grandison Thomas, of the College class of 1838, who deserves a spot high in the pantheon of strivers.

He was born in 1810 in the hamlet of Denmark, in the wild woods of upstate New York. His mother died when he was seven. He had no one to watch over him. Or, as he later wrote, he was “adrift in life, entirely destitute of the means of moral and intellectual improvement.” And destitute of funds.

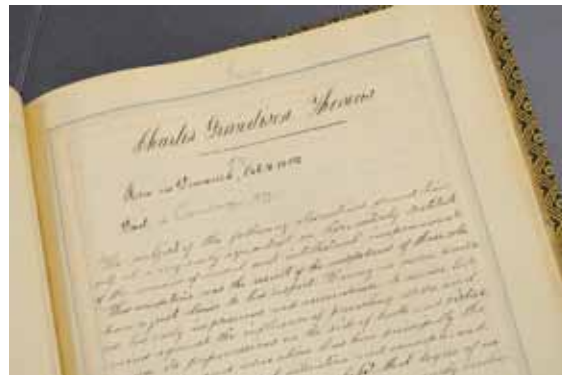
He began an odyssey that would bring him, through a triumph of resolve, to Harvard. Upon their graduation, his classmates made a Class Book, to which many contributed memoirs of their lives thus far. Brian A. Sullivan, former senior reference archivist at the Harvard Archives, came across Thomas’s contribution to that book (right) and transcribed it. The saga is now on this magazine’s website.

To subsist, the child Thomas worked first for a maker of charcoal and then a cooper, sleeping in a ruined log house and for a time in a hole in the ground. “I suffered more from cold and hunger than in all the rest of my life,” he wrote. “I learned experimentally the fact, that a person might live almost exclu-

sively on potatoes, and without shoes in the winter.” In Poverty Hollow, five miles distant from his birthplace, he became a servant boy to an Irish carpenter who treated him “most cruelly.”

He recognized within himself a longing “to be somebody....At the age of 10 years I found out by some means or other, that such persons were distinguished for their learning. This idea or association gave me a wonderful desire to study, and a taste for books, long before I was capable of reading or comprehending their contents.”

When he was 12, he learned to write his name. He did not know the basics of arithmetic until his fourteenth year, when the widow of a neighboring judge “gave me this valuable information, and about the same



time taught me to tell the time of day by her clock.”

Thomas earned a pittance at this or that, and ran away from his various masters when his situations became intolerable. In brief intervals, he had the chance to attend school or receive instruction from teachers in return for his pennies, learning geography and grammar with obsessive application.

When he was 19, he was told that an older sister had died two years before on Martha’s Vineyard. To visit her grave, he went

by steamboat to New York and wangled passage on a sloop to the island. He took up residence in a lighthouse in the sea near Edgartown as assistant keeper, a sometimes perilous position. “Here I lived almost entirely on bread and water at the rate of 40 or 50 cents per week, and attended as intensely as possible to my studies, for about three years....Here I fitted for College.” He read Cicero.

Ready at last, he thought, he sailed to Cambridge and was given a room at Harvard while he waited six weeks for an entrance examination. He was befriended by a benefactor he is careful not to name, who tutored him. He was admitted into the class of 1837.

“I was almost totally ignorant of the correct pronunciation of the English language,” he writes. “And as to Latin and Greek my pronunciation in every recitation excited the laughter of my classmates.” He repeated his freshman year, joining the class of ’38.

Thomas’s fellow students, many the languid sons of privilege, were kind to him, and though stern in visage, he was open and friendly to them. They called him “Lighthouse Thomas,” and “The Centurion” because of his weatherbeaten face.

He wrote upon graduation, “my previous taste and habits determine me for the future to conceal myself in the obscurity of some populous city, and attend, with my wonted zeal, to the study and practice of law.” He earned an LL.B. from Harvard in 1841 and practiced admiralty law in Boston. He married Jennie Richardson in 1863. She died the next year after giving birth to a son, who followed her 15 months later. Thomas died in 1879 in Cambridge.

~PRIMUS V



Visit harvardmag.com/extras to read Thomas’s memoir in full.

LETTERS

(continued from page 8)

surprised the Harvard Divinity School has not been kicked off campus. If it stays, perhaps it should play a role in the admissions process.

WILLIAM I. TRANDUM, M.B.A. '70
Gig Harbor, Wash.

...AND ITS AFTERMATH

Editor's note: The correspondent refers to online reports concerning news that resident deans' e-mail accounts were searched to identify the disseminator of an Administrative Board memo concerning the investigation of undergraduate academic misconduct. See "E-mail Encore," March 13 (<http://harvardmag.com/e-mail-13>) and "From Academic Misconduct to E-mail Investigation," March 11 (<http://harvardmag.com/misconduct-13>), and this issue, page 46.

SENIOR resident dean Sharon Howell's letter, in which she acknowledges that she has been left trying to imagine what President Drew Faust might be feeling regarding the e-mail searches, raises exactly the right points. Howell also correctly states to Faust that this situation obviously involves the "crucial trust at the heart of Harvard's culture that is ours—yours—to protect or not."

Given an issue of such importance, Howell should not have been left to wonder what Faust thought about all that was developing for so long. Howell should not have found it necessary to write that letter to the president asking to know where she stood on such a core value as this.

That is what a strong and effective leader at the top is for. This has all been happening on Faust's watch. Irrespective of the apparent complexity of the situation, or of a desire to wait to see where matters stand after all the dust settles (which is the natural inclination of most lawyers advising institutions), in a core-values challenge such as this, a strong reaffirmation from the top of basic values as early as possible is essential for the health and confidence of the organization. Faust's leadership was publicly needed. She should have been more proactively on top of this as it was developing and weighed in publicly sooner and with incandescent clarity regarding the question of the "crucial trust at the heart of Harvard's culture" that Howell placed ever so appropriately front and center before the president.

KENNETH E. MACWILLIAMS '58, M.B.A. '62
Portland, Maine

HM The March-April issue drew a heavy volume of correspondence on American-style imprisonment, same-sex marriage, Hamilton Rice, Harvard's commitment to geography, and more. Read many additional letters on these and other subjects at <http://harvardmag.com/letters-13>.



ENGINEERING IN ALLSTON

IT IS with surprise and concern that I read of the sudden decision to move "the substantial majority" of the School of Engineering and Applied Sciences (SEAS) to Allston ("Allston: The Killer App," March-April, page 47). Thinking back on the many late nights spent finishing junior- and senior-year design projects in Pierce Hall or Maxwell-Dworkin, I fear that undergraduate interest in engineering will be stifled by divorcing the school from the core campus. Clearly SEAS must grow, but can this growth not be achieved by augmenting existing facilities with new ones in Allston, perhaps gearing the latter to graduate students so that undergraduates can remain "close to home?" President Faust can perhaps be forgiven for overlooking the importance of SEAS's present location, but I nevertheless fear that the view from Mass Hall is becoming somewhat clouded.

TIM MARIANO '03, M.D., Ph.D, M.Sc.
Framingham, Mass.

HAMILTON RICE

MARK PLOTKIN's delightful account of Harvard explorer Hamilton Rice (Vita, March-April, page 36) notes that "his conduct has been blamed for destroying the academic study of geography at Harvard." It is true that President James Bryant Conant got fed up with Rice's self-promoting shenanigans, but the actuality, as told to me by Rice's surveying mentor Osborn Maitland Miller, later acting director of the American Geographical Society of New York, was more complicated. Having enlarged his own fortune by adding to it Eleanor Widener's, Rice in 1929 gave Conant a million dollars. Asked what he wanted in return, he said, "Make me Professor of Geography." When Derwent Whittlesey, recently installed as Harvard's head of geography, saw the door inscribed "Alexander Hamilton Rice, Professor of Geography," he expostulated, "What's this? I am the professor of geogra-

phy." "Oh, so you are," said Conant. So Rice morphed into Director of the Institute for Geographical Exploration. Harvard geography in 1948 became the victim, in large measure, of Whittlesey's open homosexual liaison with—and ill-judged promotion of—a member of his staff.

Rice was notorious for interminable lectures laden with countless slides of Rice with Indians, Rice with Eskimos, Rice with sailors, Rice with icebergs, Rice with polar bears, Rice with his medals. Miller recalled an evening at the Royal Geographical Society in London, Miller himself the projectionist. Before a typical RGS galaxy of the Great and the Good, lights were dimmed, and Rice embarked on his marathon. Minutes and hours passed, until at eleven o'clock a woman's voice boomed out: "Hammy, time for bed!" The lights went up, revealing Rice, Mrs. Rice, and Miller alone, everyone else having crept out under cover of darkness.

DAVID LOWENTHAL '44
Berkeley, Calif.
Former secretary, American
Geographical Society

ERRATUM

In editing "As Many Books as Possible Short of Bankruptcy" (March-April, page 44), on the centennial of Harvard University Press, we inadvertently removed brackets indicating author Christopher Reed's interpolation within a quote from a book about the Press by Max Hall. The language in the penultimate paragraph should have read:

"President Pusey had no financial worries about the Press until the very end of his tenure. [Under the four-year directorship of Mark Carroll, the Press published such seminal works as John Rawls's *A Theory of Justice*, E.O. Wilson's *The Insect Societies*, and *Notable American Women: 1607-1950*, edited by Edward T. James and Janet W. James. It also ran large, unanticipated, and unsatisfactorily explained deficits, and Carroll left his job, not quietly, in 1972.]"

Islamic Harmony

Art on display from Iran, Iraq, and Central Asia spans a millennium.

IN THE catalog of the exhibition of Islamic art from the Calderwood collection, at the Harvard Art Museums through May, Mary McWilliams writes, "No obvious factor emerges to suggest what might have motivated a middle-aged woman living in suburban Boston to immerse herself in an artistic tradition that was neither easily mastered nor at the time broadly popular." McWilliams is the Norma Jean Calderwood curator of Islamic and later Indian art, and the middle-aged woman she refers to is Calderwood herself.

Norma Jean and her husband, Stanford, were transplants from their native Colorado. She completed work for her bachelor's degree at Boston University in her forties and went on to graduate studies in education and Islamic art at Harvard in the 1960s and thereafter. She began to assemble her collection of Islamic art in 1968 and kept at it for three decades. She did indeed master her field and taught at the Museum of Fine Arts, Boston, and at Boston College.

The Calderwoods showered their adopted region with philanthropic benefactions, especially in the arts. They gave her collection to Harvard in 2002; some 150 objects from it com-

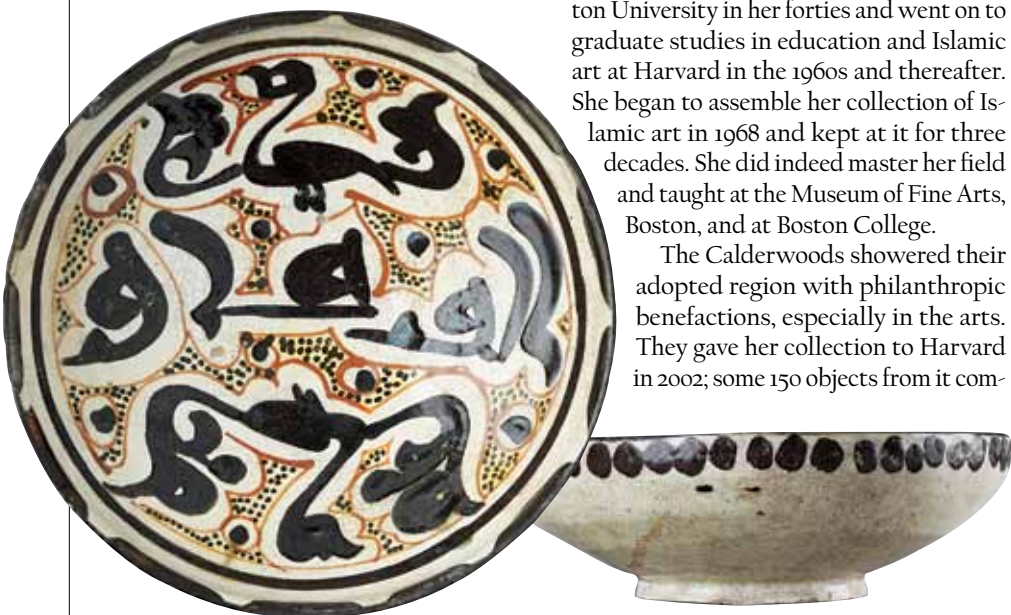
prise the current exhibition, *In Harmony*. The works include Persian ceramics, illustrated manuscripts, lacquerware.

The museum provides magnifying glasses to help visitors appreciate the minutely detailed manuscripts.

The tenth-century earthenware bowl at left is from Nishapur in Iran. "Although painted with apparent dash," McWilliams notes, "the colorful decoration of this bowl is carefully composed. The design is laid out in three registers: an Arabic word meaning 'harmony' (*al-wifaq*) occupies the middle, and above and below it are long-necked birds with outstretched wings....Combining Arabic script with birds became popular among potters in the early Islamic era. On this bowl, where inscription and birds are equally stylized and animated, the decorative formula has proved especially felicitous."

The fragmentary fritware star-shaped wall tile above is also from Iran, from the thirteenth to fourteenth century. It is inscribed in Persian, "...wings were broken.... from the prince, felicity came to me. Even if your fate is not auspicious, give in to your destiny." The artist has expressed the harmony of these lovers by uniting their serene faces within a single nimbus.

~C.R.



“Obsessively thorough
reviews from landscaping to housekeeping to
roofing to the family doctor. Written by people
just like you.”

Angie Hicks, Founder



At Angie's List, you'll find in-depth, detailed reviews, including pricing and project timelines. Companies can't pay to be on Angie's List, so you know you can trust what you're reading. You'll also find great deals, insightful articles, helpful videos and photos, useful tips and more. Visit AngiesList.com today and find out why over one million members make their most important decisions—from home repair to health care—here.

Angie's list.
Reviews you can trust.

Visit AngiesList.com or call 1.800.825.1875 today.

Life after graduation is *even more* rewarding.



As a Harvard alum, you have the opportunity to do great things. Help others achieve *their* dreams by supporting Harvard scholarships when you use your Harvard Alumni World MasterCard®. For information on the Harvard Alumni Card's best-in-class rewards, or to apply, please go to www.harvardcard.com.

