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PHOTO © MATTHEW SEPTIMUS

■ sociology

WHAT COLOR IS AMERICA?

THE 2010 CENSUS AIMS TO ANSWER THE QUESTION FOR A VITAL REASON, SOCIOLOGIST ANN MORNING SAYS

by André Tartar / GSAS '10

This March, every American household received a 10-item questionnaire from the U.S. Census Bureau. Question 9 asks: “What is your race?” The myriad answers to this, to be released in December, are of great interest to Ann Morning,

assistant professor in the department of sociology. For the past decade, she’s studied how people conceive of racial differences, which is also the subject of her forthcoming book, *The Nature of Race: American Understandings of Human Difference* (University of California).

Morning, who grew up in

Harlem, traces her fascination with racial classification back to high school at the U.N. International School, where classmates insisted she wasn’t black. Instead, they used words such as *métis* or *mulatta* to describe her. “Everyone has a clear idea about how other people should be labeled,” Morning notes.

SOCIOLOGIST ANN MORNING HAS STUDIED PERCEPTIONS OF RACE FOR THE PAST DECADE.

“It’s just that those labels vary a great deal across the world.”

NYU Alumni Magazine recently asked Morning some questions about the labels used in the 2010 Census and what they mean for us.

WHAT DO RACIAL CATEGORIES ACCOMPLISH?

Those categories help us know something specifically about discrimination. If the Equal Employment Opportunity Commission receives a complaint that a particular employer in New York City is discriminating, the government will look at the census data about the racial composition of the city to get an idea whether that employer’s workforce looks more or less like the surrounding community. So, in that sense, it helps us know something about our society.

However, I wouldn’t say it’s the best reflection of how people understand themselves. That’s not its job. As it stands, the census doesn’t recognize Hispanic or Latino as a racial category. When you get to that question, your options are basically white, black, Asian, or American-Indian. If you feel, as a Latino, like those categories don’t work for you, you’re kind of out of luck.

IF “HISPANIC” ISN’T CONSIDERED A RACE, WHY DOES THE CENSUS INCLUDE IT AS AN ETHNICITY?

[The government] counts how many people identify as Hispanic and treats that pretty much the same as people who identify as black or Asian, as a group that might be subjected to discrimination. However, there’s an historical precedent that led the government to not technically treat Hispanics as a race. In the 1930 Census, the government introduced the category “Mexican,” but a lot of people protested. The Mexican government argued that

its citizens and their descendants should be understood to be white. And so the [U.S.] government pulled back. They said they’re an ethnic group, recognizable for their cultural practices, language, descent from former Spanish colonial empire, and we’ve preserved that division since. Now there is talk among demographers about whether to include Hispanic as a race option, but it’s not going to happen in 2010.

SOME COUNTRIES, SUCH AS FRANCE, BELIEVE THAT COLLECTING RACIAL DATA OPENS UP PEOPLE TO DISCRIMINATION.

In France, the sense is that if the government were to suggest that its citizens were anything but a united body, that would be a dangerous road to go down. They can certainly point to aspects of American history that are unsavory. The truth is we’ve had these racial categories on our census from the very beginning, from 1790. In that era, racial categorization wasn’t on the census to help people of color, but quite the opposite.

The French look at our long history and see census race categories as part and parcel of that older oppressive regime. They can also point to the fact that these statistics helped the federal government intern Japanese-Americans during World War II. Having said that, the French are going to have to find some way to measure who is being discriminated against. If you can’t, it’s easy to turn a blind eye.

SO IS THE CONSTRUCT OF RACE USEFUL?

It’s useful for the precise purpose of tracking discrimination. Having said that, I wish we academics did a better job making clear the ways these categories are socially constructed. We are not using them because human beings come in four flavors or six flavors. These are man-made categories. ■

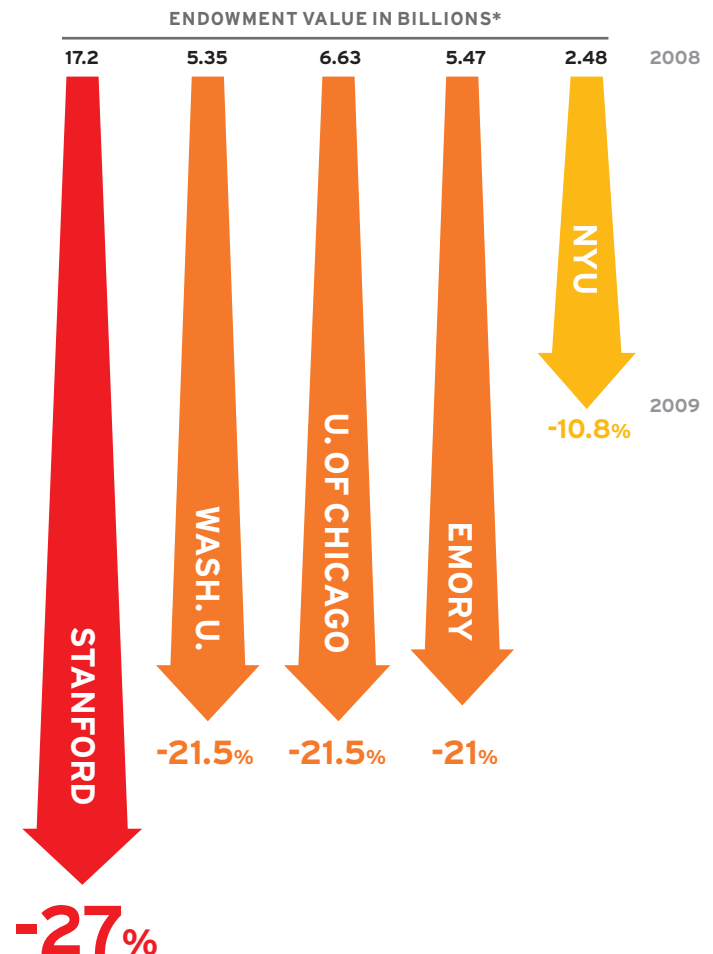
scorecard

THE SMALLEST LOSER

Last year, millions watched in horror as their mutual funds and retirement accounts withered in the recession, and university endowments were no exception. Several Ivy League schools lost more than a quarter of their endowments’ values—Harvard’s fell by 27.3 percent—while many other colleges saw decreases of more than 20 percent.

In contrast, NYU avoided riskier investments and its endowment shrank just under 11 percent. This financial prudence, along with general administrative belt-tightening around campus, has paid off for students. In 2009, the university’s financial aid to undergrads rose by more than 16 percent—to an all-time high of \$144 million.

Here is how our investments matched up with competitors:



* end of fiscal year 2008 and 2009

History, Not Taught in a Nutshell

A NEW LOOK AT THE WORLD'S OLDEST CULTURES

by Lori Higginbotham / GSAS '11 / with Jason Hollander / GAL '07

In April 2007, classics professor Roger Bagnall was on an excavation at the Dakhleh Oasis in the middle of the Egyptian desert when a car emerged on the horizon, coughing up a trail of dust. In it was Shelby White, whose \$200 million gift had recently helped establish NYU's new Institute for the Study of the Ancient World, or ISAW, which focuses on the period from 3000 BCE to 800 CE. She had trekked halfway across the globe with ISAW advisory committee chair Daniel Fleming to talk to Bagnall, their newly hired director, in person. She was anxious to start molding the institute's mission. After all, there was no time to waste if they were going to reinvent the model for studying ancient civilization.

The goal was fairly simple: White, a renowned art collector and trustee for the Leon Levy Foundation (named for her late husband), had grown frustrated with the fact that ancient studies was a field full of specialists, and not much more. Near-Eastern scholars didn't study Greco-Roman cultures, Chinese scholars didn't study Mesopotamia, and, as Bagnall says, "none of them thought about Central Asia." So the team created an institute, housed in an elegant 1899 Italian Renaissance townhouse on East 84th Street, where an interest in connecting these dots is not only welcome, it's required.

To accomplish this, ISAW pools the best experts on the planet, along with what will eventually be eight full-time faculty and a number of visiting scholars, to work directly with students. Thus, an ISAW doctoral student—the program offers only PhDs—may spark a conversation among an Arabic science expert at Columbia University, an Assyriologist at University of California, Berkeley, an Egyptologist at University of Oxford, and a Persian historian at the Sorbonne. If that doesn't yield enough food for thought, there are also some 18 affiliated specialists available right here at NYU. "I think at ISAW we are being connected more than taught," says Mehrnoush Soroush, a first-year student focusing on water management in the Middle East. "More than ideas, we are seeing connections between places and histories of places."

This spirit of union also drives the institute's public programming. Last fall, an above-the-fold front-page article in *The New York Times* spotlighted the exhibit "The Lost World of Old Europe: The Danube Valley, 5000-3500 BC," which featured artifacts from museums in Bulgaria, Moldova, and Romania that had never been on display in the United States. Among them was the male figure from Hamangia, Romania, widely known as *The Thinker*, perhaps the most famous art object from prehistoric Europe, and copper works by



THE INSTITUTE'S GRAND SPIRAL STAIRCASE, WHICH CLIMBS UP THROUGH FIVE FLOORS, WAS INSTALLED IN 1928 WHEN THE BUILDING WAS REDESIGNED IN THE NEO-ITALIAN RENAISSANCE STYLE.

those considered the best metal artisans of their day. The pieces from this sophisticated yet ancient period—especially the numerous goddess figurines and decorated female images discovered in shrines—have stoked debate over the extent of women’s political power and the female-centered cults of Old Europe. The *Times* noted that with this show, which ran through April, a “little-known culture is being rescued from obscurity.” Amazingly, “a great many archaeologists had not heard of these Old Europe cultures,” Bagnall told the paper.

Zoë Misiewicz, a first-year studying ancient mathematics, has experienced a similar process of discovery since coming to ISAW as part of its inaugural class. Instead of conducting her research linearly, she has opted to work backward through time by learning ancient Akkadian cuneiform, and then forward, which means adding Arabic to the Greek, Latin, French, English, and German she already knows. She also stumbled upon the ancient traditions of astrology this year while taking a seminar on the exact sciences. Though initially dubious about its relevance because most now consider it a pseudoscience, Misiewicz discovered that it played a major role in Mesopotamian mathematics, and this edification has changed her perception of just what constitutes “science.”

Questions beget questions, as any good scholar knows. This is exactly what ISAW wants to instill in students—a feeling of being on a path that must inevitably morph and adjust to new insights, while fighting the popular academic urge to specialize. “Our idea is to destabilize that,” Bagnall says. “At the end they may still have an idea that’s similar to what they started out with, but it will have become a lot more complicated and interesting in the meantime.” ■

history

GALILEO'S LENS

A CONFERENCE EXAMINES HOW THE VENERABLE SCIENTIST AND HIS TELESCOPE TURNED THE UNIVERSE ON ITS HEAD

by Amy Rosenberg

In 1609, it was still possible to look up into the night sky and think that all was right with the universe—for there was Jupiter, orbiting Earth, exactly as it should. A year later, such assurance was a thing of the past. In January 1610, the Italian philosopher, mathematician, astronomer, and physicist Galileo Galilei perfected a telescope strong enough to observe four moons orbiting Jupiter. It marked the beginning of the end of geocentric theory, the centuries-old idea that all celestial bodies revolve around Earth.

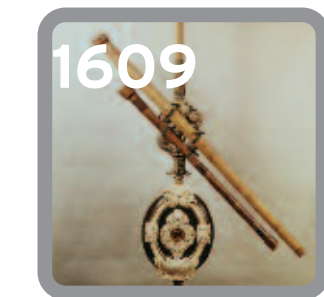
This spring, in honor of the 400th anniversary of that telescope’s creation, Polytechnic Institute of NYU, along with NYU’s Humanities Initiative, the Gallatin School of Individualized Study, and the New York City History of Science Working Group, are co-hosting “The History of the Telescope: Exploring the Boundaries Between Science and Culture,” a conference designed to examine the wide-ranging impact of Galileo’s innovations. “The telescope,” says Myles Jackson, one of the conference organizers and professor of the history of science at Gallatin and Dibner Family Professor of the History and Philosophy of Science and Technology at NYU-Poly, “demonstrates very effectively the ways in which science and culture overlap, because it enabled humans to look at the universe in a way that was impossible previously.”

With his breakthrough, Galileo

showed that Copernicus’s 16th-century theory that heavenly bodies revolve around the sun *was* correct. With that assertion, accepted beliefs about God and political and social hierarchies were called into question—hence the Roman Inquisition, which forced Galileo to recant and later placed him under lifelong house arrest. “This shift led to a critical sociological one,” Jackson explains. “It meant, in part, that theologians were no longer the only ones who could speak legitimately about God; natural philosophers could as well.”

While Galileo’s telescope may have cleared the path for modern science, the subject inevitably moved away from the masses, notes Thomas Settle, conference participant and guest scholar at the Institute and Museum of the History of Science in Florence. “Through the 17th century and beyond, the percentage of people who cared about and understood the importance of Galileo’s discoveries were about the same as those who cared about and understood Einstein’s General Theory of Relativity in the 20th century,” Settle explains. “Science was born—but it immediately went out of the common culture.”

One aim of the conference, according to Jackson and co-organizer Matthew Stanley, associate professor of the history and philosophy of science at Gallatin, is to reinforce the broader idea that science and culture do still influence—and can even illuminate—



each other in useful ways. Accordingly, event participants will be using disciplines such as economics, anthropology, art history, and comparative literature to elucidate the history of the telescope. For example, speaker Eileen Reeves, professor of comparative literature at Princeton University, has argued that Galileo’s training as an artist allowed him to not only draw convincing sketches of what he saw but also influence early modern painters, such as Peter Paul Rubens and Diego Velázquez, forcing them to rethink standard tropes and techniques. As Jackson puts it, “The scientific enterprise is a cultural enterprise.” ■

A FRESH CANVAS

STEINHARDT HAS BUILT A DIFFERENT KIND OF ART PROGRAM—AND PEOPLE ARE COMING

by Megan Doll / GSAS '08

When Nancy Barton came to NYU from CalArts in 1997, she noticed a striking difference between the two coasts. “There was a time when, in New York, the good artists didn’t have anything to do with the universities,” remarks Barton, now chair of Steinhardt’s department of art and art professions. East Coasters stayed in their own art world bubble, while a less developed market and gallery system on the West Coast led local artists to become involved with the universities. As a result, California schools in the 1970s and ’80s increasingly empowered individual students and drew industry stars who wanted to educate them in contemporary critical theory. “[Out West], every important artist taught—it was the

fers degrees in everything from costume studies to art education and administration—the program has enriched what was a rather conservative conceptual base, revitalized the faculty, and given more voice (and freedom) to individual students. With an ever-rising pool of applications, a spate of alumni successes, and a now-enviable roster of teachers, it’s getting serious attention. In the past decade the number of applicants to the department’s MFA program—which enrolls only 10 students per year—has ballooned from 106 in 1999 to 337 in 2009. Similarly, BFA applications jumped from 250 in 1998 to 400 in 2010.

Even before this turnaround, the Studio Art program had a history of fostering creative talent, including such renowned alumni as painter Ross Bleckner (STEINHARDT ’71), sculptor Joel Shapiro (WSC

talent. Adding to a faculty that already boasted some art world stalwarts—such as Peter Campus, Kiki Smith, and John Torreano—Barton lured critic David Rimaneli, multimedia artist Sue de Beer, photographer and video artist Lyle Ashton Harris, and painter Jesse Bransford early in her tenure. More recent hires have included Bleckner, multimedia artist Carol Bove, and conceptual artist Trisha Donnelly—who all have a firm finger on the pulse of the modern art world. Added to this is a revolving array of prominent visiting artists: painter Elizabeth Peyton, who had a recent survey show at the New Museum, and Renee Cox, who was teaching at Steinhardt during the 2001 controversy in which Mayor Rudy Giuliani accused her work, *Yo Mama’s Last Supper*, of being anti-Catholic.

It was not enough, however, to raise the caliber of the faculty. The department has aimed for an increasingly collaborative approach to education, in which students and faculty work side by side designing curriculum, special programs, and exhibition spaces. The emphasis on criti-

cal theory has also fostered a climate for animated debates on the marketplace, the role of an artist as a public intellectual, and the relevance or obsolescence of print. Recent graduates have garnered myriad accolades and honors—including Afruz Amighi (STEINHARDT ’07), who won the Victoria and Albert Museum’s first biannual Jameel Prize in 2009; Beatrice Glow (STEINHARDT ’08), who received a 2008 Fulbright grant to study performance art in Peru; and Bove (STEINHARDT ’00), Amy Granat (STEINHARDT ’07), and MK Guth (STEINHARDT ’02), who all exhibited in the last Whitney Biennial.

Of late, the department has focused on a new frontier: extending opportunities for studio art students in Accra, Ghana, and Berlin, as well as creating a global-art minor that includes coursework in such cities as Florence, Prague, and Shanghai. Barton and faculty are now looking to develop projects in Abu Dhabi, Paris, and Madrid. “Every year we think: What will make a visionary art program?” Barton says. “And we try and go forward.” ■

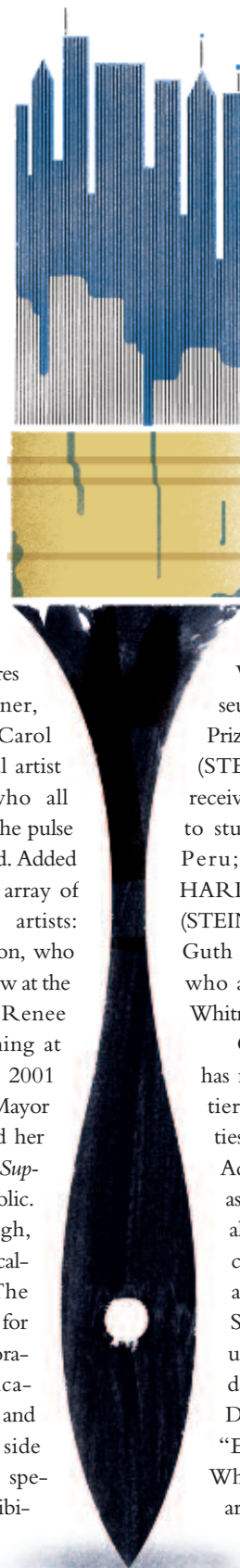
“There was a time when the good artists didn’t have anything to do with the universities.”

way people communicated,” Barton recalls. “And the schools in New York used to have a lot of better, failed artists.”

The past decade or so has changed that. Following the ascent of innovative departments at Yale and Columbia universities, the Studio Art program at the Steinhardt School of Culture, Education, and Human Development has also undertaken something of a renaissance. Housed in the department of art and art professions—which of-

’64, STEINHARDT ’69), and sculptor and installation artist Felix Gonzalez-Torres (STEINHARDT ’87). But many, not surprisingly, were primarily attracted to NYU for the location rather than the instruction.

When Barton arrived at Steinhardt, first as the director of the undergraduate program, she and her colleagues sought to change that perception. They quickly assembled a more avant-garde, West Coast-style collection of teaching



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IN BRIEF

SMILING FOR THE CAMERAS

National exposure is almost as rare for a student filmmaker as family-friendly programming is on cable television. So the Hallmark Movie Channel is doing a double service with Film Positive, a new competition for inspirational short films open to undergraduates and graduates at the Maurice Kanbar Institute of Film and Television in the Tisch School of the Arts. The winners—which are airing on Hallmark (and at HallmarkChannel.com)—will be up to 30 minutes long and were selected by a panel of judges including actors Alec Baldwin (TSOA '94), Billy Crystal (TSOA '70), and Marcia Gay Harden (TSOA '88). Tisch Associate Dean Sheril Antonio describes the quirky style of the submissions as “upbeat-offbeat.” In a film called *The Grey Woman*, for instance, the titular character lives in

a black-and-white world until she discovers color. “For people interested in upbeat films,” Antonio says, “we’re bringing [something] new.”

OBAMA'S ARTS GUIDE

Last November, Mary Schmidt Campbell, dean of the Tisch School of the Arts, sat down with First Lady Michelle Obama and others for the first meeting of new appointees to the President's Committee on the Arts and the Humanities. As vice-chair of the group, Campbell is helping advance discussions on the arts in public education, the ways artists serve their communities, and how the arts drive local economies.

As former executive director of the Studio Museum in Harlem, which played a role in the revival of Manhattan's 125th Street, Campbell is no stranger to these topics. But she believes her new work as

adviser to the White House and the National Endowments for the Arts and Humanities will provide her with “a broader understanding” of issues facing artists today, which will inevitably help to refine the training and programs at Tisch.

NEW LEADERSHIP COMES TO CAMPUS

From East to West Coasts and beyond, NYU recently recruited three top academics to take the helm of schools in their respected disciplines.

Peter Blair Henry replaced Thomas F. Cooley as dean of the Leonard N. Stern School of Business. A former Rhodes scholar and member of the Obama Transition Team, Henry has advised governments from the Caribbean to Africa. His last post was as professor and associate director of the Center for Global Business and the Economy

at the Stanford University Graduate School of Business.

From across the pond, Patricia Lee Rubin arrived as the new director of the Institute of Fine Arts, a position previously held by Mariët Westermann. Rubin was formerly a professor and deputy director at the Courtauld Institute of Art in London, and is an acclaimed scholar of Italian Renaissance art and literature.

Lynn Videka was appointed dean of the Silver School of Social Work, replacing Suzanne England. Videka is the former vice president for research and a distinguished service professor at the University at Albany-SUNY, and a former Fulbright Fellow. Under her guidance, Albany saw a 400 percent increase in annual fund gifts and a 200 percent increase in externally funded grants.

Campus Projects Move Onward

Even in a recession, NYU has benefited from donors who are keeping several ongoing renovation projects and academic initiatives afloat. Here are some of the contributions:

A \$100 million gift from Stanley and Fiona Druckenmiller (STERN '89, NYU Langone Medical Center Trustee) will help to establish a new neuroscience institute at the Langone Medical Center. The institute will be designed to attract top scientists and researchers, allowing Langone to become a leader in translational neuroscience.

Renovations continue at the Stern School of Business with the help of a \$20 million gift from John Paulson (STERN '78), founder and chairman of the hedge fund Paulson & Co., Inc.

The gift will also endow two faculty chairs and provide scholarships for undergrads.

The Elmer and Mamdouha Bobst Foundation has made a gift of \$10 million to support the next phase of the Elmer Holmes Bobst Library renovation, which will focus primarily on floors 4 and 5. Highlights of the project will be new spaces for individual and collaborative study, dedicated areas for graduate students, and reconfigured services and technology.

A \$10 million gift from NYU Trustee Constance Milstein (ARTS '69) will help establish a new campus in Washington, D.C. The NYU-DC Center will be part of the university's global network. Students enrolled at any of NYU's campuses will have the opportunity to spend semesters at NYU-DC, as well as the home campus in New York City and other global sites.

A groundbreaking and reception

will be held September 20 for all DC-area alumni, parents, and friends.

The university's Paths to Peace Program has been created and underwritten for the next 10 years by alumnus Howard Meyers (STERN '64). His \$10 million gift will enable the program to continue recruiting Israeli and Palestinian students who come to NYU to learn skills for leadership, advancing reconciliation, and coexistence for the future.

NYU Life Trustee Marie D. Schwartz, through the Arnold & Marie Schwartz Fund for Education & Health Research, has made a \$1 million inaugural gift in support of the Center for Genomics and Systems Biology. In recognition, the university will name the Arnold and Marie Schwartz Lobby in the center, which is currently under construction at 12-16 Waverly Place.

Finally, Emmy and Golden Globe award-winner Alec Baldwin (TSOA

'94) has donated \$1 million to the Tisch School of the Arts to help students in need of tuition aid. Scholarship recipients will be named the Alec Baldwin Drama Scholars.



A RENDERING OF THE NYU-DC CENTER.



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CUTTING-EDGE

music

MADONNA MEETS MOZART

by Lori Higginbotham / GSAS '11

Like most media, music is riding the digital tide. This year music downloads are projected to account for 35 percent of all sales, with nearly 1.4 billion singles streaming to computers across the globe. That's a lot of files. And while the search engine on iTunes or the similar-song device at Pandora.com are both nice options for those looking to expand their libraries, the future of music retrieval, according to Juan Bello, lies in studying a song's DNA—visually mapping its texture,

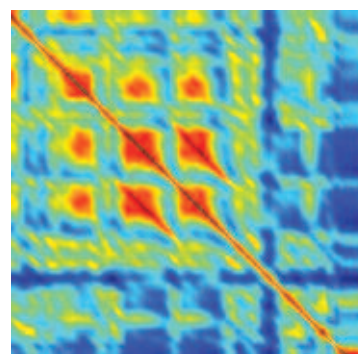
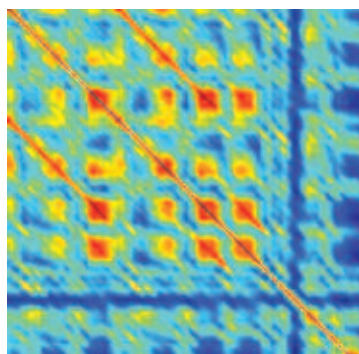
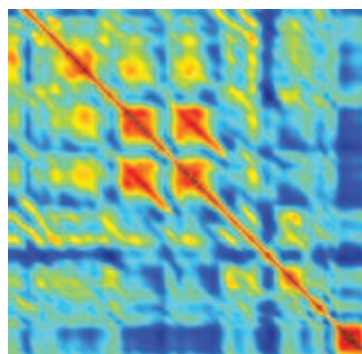
rhythm, and harmony.

The concept is almost as biological as it sounds. Bello, assistant professor of music technology in

the Steinhardt School of Culture, Education, and Human Development, is a leader in the nascent field of Music Information Retrieval, which he believes may “do for musicology what bioinformatics has done for the life sciences.” As a founding member of NYU's Music and Audio Research Laboratory, he's helped to create software that literally draws the compositional elements of a piece of music—allowing researchers to

visually link components of such odd-couple artists as Madonna and Mozart.

Here's how it works: Imagine the first movement of Beethoven's Fifth Symphony. As the program graphs the trajectory of the piece's tempo and volume, a black line jumps around the screen, much like an Etch A Sketch. Bello then traces thousands of other songs and determines, often to his surprise, which overlap. His goal is to even-



NEW SOFTWARE CAN MAP YOUR MUSIC, SUCH AS THE MOVEMENTS IN BEETHOVEN'S FIFTH SYMPHONY (ABOVE).

IMAGES © JUAN BELLO

nursing

Where There Is No Doctor, Technology Steps In

by André Tartar / GSAS '10

A thirtysomething woman in a Seattle research study breaks into tears after the tablet computer in her hands asks whether she's depressed. She is, not to mention HIV-positive and struggling with a drinking problem, but it's the first time she's ever been asked and doesn't mind that it was by a computer. Really asking the questions is CARE+, a counseling tool developed by Ann Kurth, a professor at the College of Nursing, that involves an interactive questionnaire embedded with literature and skill-building videos.

This is just one of the ways that technology is bridging the social taboos and financial chasms that can keep patients from the care they need. “We all would prefer to have a really wonderful, empathetic, well-trained health provider who listens to all of our issues, but that doesn't always happen,” notes Kurth, who's bringing CARE+ overseas to help extend scarce health-care resources in Africa. A new study in Kenya, for example, will use the tool's videos to get people thinking about safer sexual habits, such as how to correctly use a condom. The tablet computers

give patients a judgment-free zone to discuss such sensitive issues, and Kurth says that the touchscreen technology is more intuitive for inexperienced computer users than keyboards.

Another project that Kurth runs in Africa plans to test up to 3 million people for HIV—a feat that would have been logistically and financially impossible until recently. In Kenya, locally trained staff on motorcycles is visiting 2,400 couples in their homes, which often have no addresses, and tracking them via the GPS on their cell phones. There they conduct surveys with PalmPilot-like devices and take blood samples to test for HIV/AIDS and pregnancy using simple reactive strips. Meanwhile, teams in Uganda are testing for HIV using Google-powered phones, which connect to the patients'

records via a bar code on their clinic card, to chart a treatment plan for those who test positive.

Doctors in underserved places are also harnessing new telecommunications technology to talk among themselves. In Ghana, where each doctor is responsible for 11,000 people on average, Brian Levine (GSAS '03, MED '08) noticed that these providers all had cell phones but were unable to communicate with one another cost-effectively. So Levine, who is an obstetrics and gynecology resident at New York-Presbyterian Hospital, introduced MedicareLine, which connects doctors with free cell phone minutes—so they can easily make referrals, follow-up appointments, and send emergency bulletins. The project has since spread to Liberia, Tanzania, and Kenya, with plans for Rwanda and India.

biology

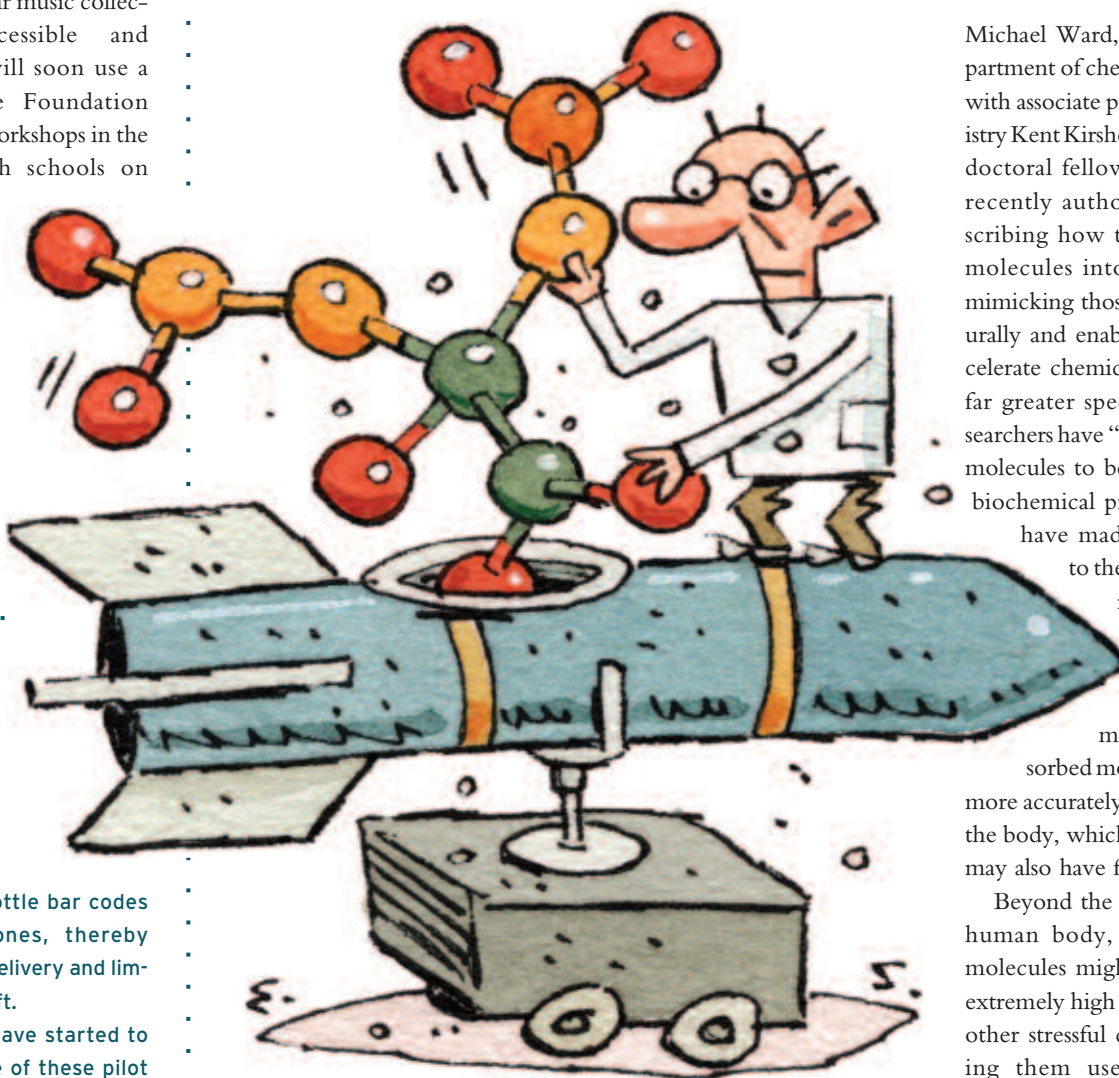
MOLECULES WITH A TWIST

by Kevin Fallon / CAS '09

tually bring this technology to consumers so that they can expand their spheres of sounds, but for now he's focused on the applications for expert users, such as musicologists. He's even teamed up with the NYU Division of Libraries to make their music collection more accessible and searchable, and will soon use a National Science Foundation grant to conduct workshops in the city's public high schools on the points where math, science, and music intersect. It's part of his greater vision of finding connections in unlikely places. "Music is just an excuse in this case," Bello says. "But it's a pretty good one." ■

In Ghana, Levine is working on another project called SmartTrack, which would track the distribution of HIV drugs to patients by scanning pill bottle bar codes with camera phones, thereby speeding up their delivery and limiting waste and graft.

Positive signs have started to emerge from some of these pilot projects, but many questions still remain. For example, Levine asks: "How do you get a \$600 device to people who can barely afford food on their tables?" Kurth also cautions that the right balance must be found between health-care providers and the newly available gadgetry. She explains: "We [cannot] replace the need on the ground for more bodies." ■



WE ALL READ WITH CONCERN THE SIDE EFFECTS WRITTEN ON PILL BOTTLES AND LABOR THROUGH

those warnings at the end of pharmaceutical commercials. But those lists may soon get a whole lot shorter thanks to scientists who are now constructing "bulletproof" molecules that may

make the drugs you take stronger and work faster, with fewer potential downsides.

"We're improving on things that nature does and doing things nature can't do," explains

Michael Ward, chair of the department of chemistry. He, along with associate professor of chemistry Kent Kirshenbaum and post-doctoral fellow Galia Maayan, recently authored a study describing how to fold synthetic molecules into helical shapes, mimicking those that occur naturally and enabling them to accelerate chemical reactions with far greater specificity. The researchers have "tuned" these new molecules to be consistent with biochemical processes but may have made them resistant to the effects that cause regular molecules to break down. Thus, medicines may soon be absorbed more efficiently and more accurately engage targets in the body, which means that they may also have fewer side effects.

Beyond the challenges of the human body, these synthetic molecules might also withstand extremely high temperatures and other stressful conditions, making them useful in creating industrial chemicals, polymers, and plastics. This could eliminate a time-consuming step in a range of manufacturing venues. "If you think of the process as an assembly line that can be used to generate lots of different products," Kirshenbaum says, "what we've done is create a tool that will allow us to speed up that assembly line." ■