



Natural Selections

A NEWSLETTER OF THE ROCKEFELLER UNIVERSITY COMMUNITY

REGARDING QUESTION 37

ENGİN ÖZERTUGRUL

At the time the senseless Virginia Tech (VT) massacre took place, I was filing an application for US citizenship. This was the time during which my attempts to respond to Question 37 (Q37) seemed to send sparks flying and fires starting in my mind. Partly, there was new heat arising in me from the painful VT revelation, and partly, there were my long-standing ideals that kept me from having any broader perspective. The more I thought about VT, the angrier I became. I knew it was unreasonable to make any justifiable connection between VT and Q37. But knowing this did not alter my emotional state. I knew I needed to cool down, so I decided to suspend the application and walk away indefinitely.

It was three weeks later when I decided to respond. Question 37 asks: "If the law requires it, are you willing to bear arms on behalf of the United States?" My answer was "no," and I was asked to write a letter explaining my position. Here it is.

It seems quite understandable that for many this question hardly evokes the same sense of importance as it does for me, and for all practical purposes—being 46 years old last February—it is unlikely that I will be asked to take up arms. I could have checked "yes," sealed the envelope, and sent it out. But what do you do if all your life you fought against the idea that conventional military approaches are the only solutions to protect a nation against attacks (currently, terrorist attacks)? As far as I remember, I have always thought and written, at its extremes, nationalism (patriotism in particular) is one of the greatest obstacles to creating peace on earth. Checking "yes" on Q37 would be a betrayal of everything I stand for.

For the sake of my application, I could still do it of course. First, all my past work proves that I have always served democratic ideals. Second, as every other law-abiding citizen, I am fully aware of the fact that we comply with laws whether we

H. Oath Requirements. (See Part 14 for the Text of the Oath)

Answer Questions 34 through 39. If you answer "No" to any of these questions, attach (1) your written explanation why the answer was "No" and (2) any additional information or documentation that helps to explain your answer.

- | | |
|--|--|
| 34. Do you support the Constitution and form of government of the United States? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 35. Do you understand the full Oath of Allegiance to the United States? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 36. Are you willing to take the full Oath of Allegiance to the United States? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 37. If the law requires it, are you willing to bear arms on behalf of the United States? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 38. If the law requires it, are you willing to perform noncombatant services in the U.S. Armed Forces? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 39. If the law requires it, are you willing to perform work of national importance under civilian direction? | <input type="checkbox"/> Yes <input type="checkbox"/> No |

agree with them or not. For instance, I do not agree with US tax law in its entirety but I pay my taxes. This is the price of living in harmony in democratic societies. Third, if harm is imminent, and when there is absolutely no other choice but to defend, then I would not hesitate to protect the country and its people. This sort of thinking could easily justify "yes" in response to Q37 and I would remove the only problem between me and US citizenship. But deep down, I know that this would be withholding important information about who I am for the benefits of citizenship. More importantly, it felt unrighteous to insincerely justify a position for the purpose of favoring the success of my application.

It is evident from this letter that I highly prize the privilege of American citizenship. This great country is the home of great people, ideals, and dreams. When the Mayflower left Plymouth, England on September 6, 1620, the people on that ship held onto their dreams of freedom from religious, political, and economic oppression. This nation came a long way from Patrick Henry's "Give me liberty or give me death" to Martin Luther King Jr.'s "I have a dream." These people were men of great conviction. They truly believed in their ideals and made other people believe in them. This country believes in change when it is done for the good of its people and by its people. The beauty is, when the people of this nation decide and act col-

lectively, there is nothing that cannot be amended.

I retain great faith in this nation's principles of justice, equality, freedom of speech, and freedom of religion. Ironically, these are the very principles that were adapted by Ataturk (the founder of Turkish Republic) in my native country after the collapse of the Ottoman Empire. Currently, the nation is united to protect these principles against religious oppression.

I cannot imagine a better description of my position than the following quotes from Einstein¹ who became a United States citizen in 1940.

"You cannot simultaneously prevent and prepare for war. The very prevention of war requires more faith, courage, and resolution than are needed to prepare for war."

"To kill in war is not a whit better than to commit ordinary murder."

He cited the Nuremberg Tribunal for the proposition that "conscience supersedes the authority of the law of the state."

"The state should be our servant and not we its slaves... The state transgresses this commandment when it compels us by force to engage in military and war service, the more so since the object and effect of this slavish service is to kill people belonging to other countries or interfere with their freedom of development."

By now, it should be very clear that for

continued on page 2

Mary Abraham

Rudy Bellani

Fabienne Brilot-Turville

Manuel Castellano-Muñoz

Jiabin Chen

Revathy U. Chottekalapanda

Ileana Cristea

Jeff DeGrasse

Paula Duque

Bluma Lesch

Anna Magracheva

Aileen Marshall

Engin Ozertugrul

Georgia Patikoglou

Prerana Shrestha

Sriram

Tari Suprpto

selections.rockefeller.edu
naturalselections@rockefeller.edu



drawn by Doruk Golcu

tin Luther King Jr. accepting “If the law requires it are you willing to be a slave?” The law, under any circumstances, must not force its citizens unwillingly to bear arms. I hope such a requirement will never take place as it is certainly not compatible with many great principles of this nation.

Despite all the carnage and bloodshed associated with wars that this country felt obliged to participate in the past, I believe that the people of this nation will find a way to transcend the notion of war as it did its ugly

of its citizens who believe that we must all do our share for the greatest cause of all—Peace. ☉

Reference:

http://www.wagingpeace.org/articles/2005/03/00_krieger_einstein-man-peace.pdf

continued from previous page

me accepting “If the law requires it, are you willing to bear arms on behalf of the United States?” is no different than Mar-

slavery and racism many years ago.

Should my application be rejected, I shall serve this nation as a permanent resident and continue to join the efforts

Leaving the Ivory Tower

FABIENNE BRILOT-TURVILLE

“Don’t let anyone tell you that science is a dead end,” writes Cynthia Robbins-Roth in her book *Alternative Careers in Science, Leaving the Ivory Tower*.

Indeed, at one point or another, we all look into the mirror and wonder how all those years of education and training will be useful for our future, whatever it is. Of course, universities and research institutes are crowded with bright academic scientists, but the others? What do they become? Is there a way out now that you think your chances to become a full-tenured professor have grown smaller? At *Natural Selections* we wondered which qualifications and skills would make a scientist successful after a Ph.D. and/or a postdoctoral fellowship. We interviewed four scientists who left academic science, managed to survive, and succeeded outside the Ivory Tower.

At first sight, Veronique Kiermer’s path was a classic one. After a successful Ph.D. in Europe, she worked as a postdoc in a renowned lab in California. Everything was supposed to work perfectly. Instead, doubt came. All the steps required to

hold an academic position as a principal investigator did not attract her. In 2001, a Bay Area headhunter contacted her for a position at Cell Genesys, a biotech in South San Francisco, CA. Veronique accepted the offer. The applied aspect of corporate science drew her out of the academic life. After two years working as Assay Development Scientist, although her job was still fulfilling, she realized that she would become extremely specialized and focused if she stayed in that area. With that in mind, she saw a job advertisement for the position of Editor of a new *Nature* journal. She decided to take her chances and became Editor-in-Chief of the newly launched *Nature Methods* in 2004. “My drive to do different things has been beneficial for my career,” says Veronique, “Little by little, I made choices towards doing things I really liked to do.” There is no doubt in Veronique’s mind anymore. She commented that, although a postdoctoral experience was required to be hired by *Nature* Publishing Group, her detour through a private corporation taught her some important skills, such as management and

dealing with budgets, and it also gave her the self-confidence that she needed in order to get her current position.

Being involved in real world problems did the trick for Scott Pritchard. After undergraduate studies in Montreal and a Ph.D. at Duke University, NC, he felt the urge to make an impact on people's everyday lives. Although he knew of McKinsey through friends, his first exposure was during a career seminar on Duke campus where he met consultants from McKinsey & Company. He decided to give it a try, submitted his application, and went through several rounds of interviews. When he received an offer and after much discussion with people at McKinsey, he was convinced that consulting was the right choice for him. "Lots of people don't associate a Ph.D. in biomedical science with management consulting, but I do believe there is something about independent advanced studies that teaches you about communication and problem solving, essential skills in consulting."

As opposed to Veronique and Scott, the lack of permanent positions drew Sandra Huygen and Sabine Thebault to industry. Both are currently employed in private companies in Europe. "I was neither bored nor fed up by bench work and would have rather continued my work in the university lab where I was working after my US postdoc, but I strongly felt the need for a more stable position in terms of long-term employment," says Sabine. Unfortunately, there was just no position for her available at the time. In 2004, she replied to a job advertisement posted on a Web site by the second largest pharmaceutical company in Europe. "More than my concrete experience at the bench, it was my Ph.D. degree and my postdoc experience that were my principal assets in my application form," says Sabine, highlighting that having a Ph.D. followed by a postdoctoral fellowship is still greatly appreciated by recruitment teams. Certainly, Sandra agrees with this point. She explains that the feedback she often received, while she applied to biotechnology companies directly after graduation, was that they were more interested in individuals with postdoctoral experience than people with only a Ph.D.

What do they do? At *Nature Methods*, Veronique evaluates manuscript submissions and, together with the editing team, decides on sending manuscripts for peer review. She also organizes and commissions freelancers to write articles, and she edits their contents. As Editor-in-Chief, she also deals with some administrative work such as staff and budget management. However, one major focus of her work is to stay current with state-of-the-art science. She goes to lots of conferences where she meets and talks with researchers. "I have to see the 'big picture' and to constantly maintain my scientific knowledge at a top level. This intellectual stimulation is definitely the most exciting part of the job."

Scott is mainly busy solving problems for the healthcare industry, which puts him in constant interaction with clients. "The variety in consulting is extremely important. Every couple of months, we have to solve new issues on new projects and the day-to-day tasks are also very diversified."

As Manager in Process Development at Sanofi-Pasteur, France, Sabine currently develops methods leading to virus purification in order to develop a vaccine. As far as everyday work is concerned, she has to manage a team of technicians,

plan and analyze experiments, as well as participate in meetings to discuss group projects.

When Sandra started to work at Oncomethylome Sciences, there was no one to cover the critical interface between the company and the outside world. Thus, first hired as R&D Project Leader, she shifted her position to become Scientific Coordinator. Her job is now extremely diverse; she coordinates scientific collaborations between the company and different research labs in Europe and the US, takes care of public relations and local press releases, and she also meets consulting partners and takes care of biosecurity authorizations. "It took me loads of training and motivation," says Sandra, "but having such an opportunity for a career change is a great advantage of start-ups."

What is the most challenging part of their work? "Decisions, decisions, decisions," says Veronique. Indeed, having been on the other side of the fence, she cannot help but remember how important publications are for academic careers. She adds that the responsibility to decide the fate of manuscripts and to play the role of "the bearer of bad news" is sometimes hard to cope with.

"Communication is surprisingly a big issue," says Sabine. Back in the lab, when she had results, she was expected to give talks and write publications in a "down-to-earth" sort of way. In a company, she sometimes feels that she has to pay extreme attention to what she says. "I have to be very specific, think about presenting a total point of view. Communication has to be much more sleek and polished."

"Unpredictability and prioritizing," says Scott. His job is about establishing relationships and helping clients to solve problems often pressured by time constraints. "I found that, contrary to basic science, by identifying and focusing on the most important factors driving a problem, we can get to the 80 % solution very quickly. I've learned to embrace uncertainty."

Still doing Science? Scott's answer is clear enough; "Absolutely. We develop hypotheses, then generate data and conduct analyses to test them. Quite frankly, I solve business problems by applying the scientific method, there are lots of parallels."

Sandra and Sabine now apply learned techniques as practical tools to detect cancer or to purify viruses. "I use rather than I do science," says Sandra, "I believe that the most important aim of biomedical research is to help and cure people, and I use science in the last steps of the process." Still considering herself as a scientist, Veronique believes that she contributes to science rather than does or uses it. She explained to *Natural Selections* that when the reviewers are not unanimous about a manuscript, the editor has to make a decision. This is a choice, of course, based on the criteria of the journal and also on her scientific value and views. "My personal contribution to science has never been greater than now," says Veronique, "and that's a fantastic opportunity." ☉

Cynthia Robbins-Roth, *Alternate Careers in Science, Leaving the Ivory Tower*, San Diego, Academic Press, 1998.

The author wishes to thank Veronique Kiermer, Scott Pritchard, Sandra Huygen, Sabine Thebault, and Manuel Castellano-Muñoz for their time and help.

The Jury Duty Experience

AILEEN MARSHALL

Most American adult citizens can relate to the experience of jury duty. Most view it as a chore, unavoidable; even though we are all aware, that it is a right and a privilege. It has been a very boring and frustrating process, but things seem to be getting better. In recent years, I have come to realize that it is not a universal experience. There are many countries where one does not have the right to be judged by a jury of your peers, some countries have professional jurors who eventually become corrupt. While the system in the US and even in New York City is not perfect, overall it works.

How and when did jury duty start in this country? Jury trials were already a well-established practice in England, so the early settlers just kept up that practice. The first jury trial took place in Jamestown, Virginia. The Sixth Amendment of the US Constitution guaranteed right to a trial by jury. In the past, jury duty was limited to men—remember the movie *Twelve Angry Men*? There used to be many exceptions to jury duty, any profession that was considered essential: any health related fields, civil servants, education, law enforcement, stay-at-home mothers, students, to name a few. My own mother used to be excluded from the jury pool just for being a nurse, even though her position did not include any critical care. Over the years, many exemptions have been eliminated in order to increase the jury pool. Now the time to be eligible for jury duty has increased to six years. Names for jury duty are culled from tax rolls, voter registration, motor vehicle records, welfare rolls, and other government sources.

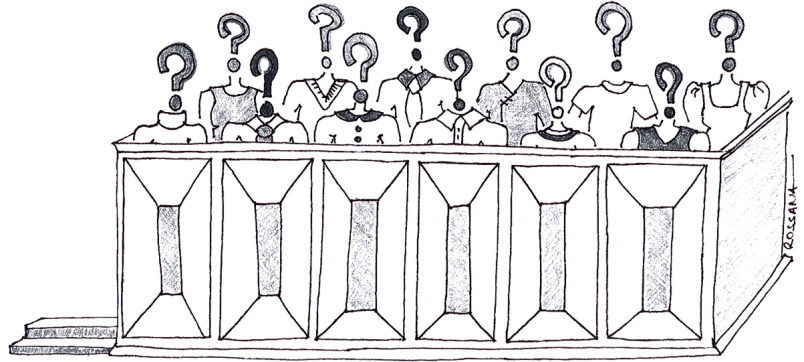
I received my jury duty summons right after the holidays. What a let down, although I realized it had been five years since my last turn, longer than I would have expected. There is a relatively new system in place to report for jury duty. Instead of having to report on your first day, you call the phone number given and see if your number is up. Sometimes one can just call everyday for a week, and if your number is not called, your obligation is fulfilled. Unfortunately, I had to report after my third day of calling in.

I got to my appointed courthouse in Kew Gardens at 9:00 a.m., after having to wait on line for the metal detector, to find the place already crowded. There was the usual set of instructions, and questions. At one point the court officer said, “Anyone who doesn’t speak English, walk this way.” There was a low titter throughout the room as many people stood up and followed him. This is my third time on jury duty, and that happens every time! I handed in my summons as instructed. I waited all morning, without getting called on a panel. The room looked much better than I had remembered last time. There were clean looking, padded seats, and several television screens around the room. There were even about a dozen computer terminals with Internet access in the back. The court officer said that the time on the computer was limited to five minutes, but no one seemed to be monitoring them.

We were let go for lunch at 12:30 p.m. I find it interesting to look for a place for lunch on jury duty. It’s a neighborhood I’m not familiar with, but I feel perfectly safe near the courthouse. There are always plenty of places nearby that cater to the courthouse crowd. I found a traditional deli where I got a good size turkey and Swiss on rye for less than \$4! I got back to the jury pool room a few minutes early, because what else is there to do?

I was called onto a panel soon after lunch. A panel is a set of

potential jurors for a specific case. This courthouse is for criminal cases, which require 12 jurors. They called about 40 people for the panel. In the courtroom, the judge gives instructions to the jurors, and then they start the voir dire. This is when the judge, assistant district attorney, and the defense lawyer question everyone on the panel to determine whether or not they want them on



drawn by Rossana Henriques

the jury. This is where everyone tries to come up with excuses to get out of jury duty.

After the case at hand is briefly described, the judge asks questions such as your education and occupation, marital status, whether you feel you can be unbiased in the case, whether you have any conflict of interest, and whether you know any one connected to the case or law enforcement. Then the assistant district attorney and the defense lawyer ask their questions as to how you feel about certain issues, whether or not you have been a victim of a similar crime, and the like. Most people will try to emphasize some experience or knowledge that will keep them from being impartial. This particular case was a drunk driving charge, so people brought up their experience with alcoholics or car accidents. The judge knows what they are trying to do, so he will question them very closely on their answers. When the voir dire is finished, we are dismissed to another room, while the lawyers and the judge haggle over whom they want on the jury. Each lawyer can challenge the other lawyer’s choices within limits, moderated by the judge. It didn’t take long until we were called back into the courtroom. The names of the jurors were called out. With each name called, I held my breath. If I were picked for the jury, it would be at least another three days of jury duty. I breathed a sigh of relief when the last name was called and it wasn’t me! Since it was 5:00 p.m. at this point, we were dismissed for the day; I was disappointed to hear that those of us not picked had to report back to the jury pool the next morning.

I arrived back the next morning, wondering whether or not I would get called on another panel. I did not get called on the first panel that morning. Just before lunch those of us still in the pool were dismissed. A cheer went through the crowd. The court officer commented, “No one was cheering when I was calling their names.” We were given our Proof of Service Certificates and a nice date book with the courthouse seal. This last item was a surprise. I almost felt guilty for trying not to get picked after receiving this token of appreciation. However, I am relieved that I won’t get called again for another six years. ☉

Three Days in July

JASON W. CROCKETT

To many visitors, a trip to Gettysburg can seem overwhelming. Before even reaching the battlefield, one passes dozens of souvenir shops and tour operators, along with countless reenactors dressed in blue and gray. The names Lincoln and Lee adorn numerous buildings, and the onslaught of passersby wearing fanny packs is almost



The 20th Maine Memorial, Gettysburg, with a picture of Joshua Lawrence Chamberlain on the left.

too much to bear. People swarm the aging visitor center, set to be replaced by a more modern building next year, buying framed copies of the Gettysburg Address in the gift shop and watching the battle play out on an antiquated yet riveting electric map. A car is necessary to see the entire battlefield, and there are even private tour guides that will ride with you to explain what happened during those first three days of July in 1863. As the Civil War's most famous battle, a visit to Gettysburg runs the risk of becoming just another stop in a long trail of must-see historical sites. The only way to avoid that trap is to dig a little deeper than the average tourist.

Even if the crowds happen to be thin during your visit, one thing that you cannot escape from at Gettysburg is an overload of monuments. Every few feet, there is some sort of stone structure commemorating a unit or a leader. There are monuments for each state that sent troops to the battle, a monument for almost every general, and monuments marking important events that affected the outcome. The names of military

units, based on a system unfamiliar even to today's soldiers, overwhelm you. Along with descriptions of troop movements and discussions about the artillery and the infantry, they often do more to confuse than to explain. For example, people may learn that General Jeb Stuart, the Confederate cavalry commander, missed the beginning of the battle, leaving Robert E. Lee with little idea as to where Union forces were. Most people know that cavalry means men on horses, but they may not realize that the cavalry's primary job is to find the opposing army and report its movements, knowledge that makes Stuart's failure appear all the more egregious.

Little Round Top, a small hill that is perhaps the park's most-visited site, can make a case as the turning point of the battle that was the turning point of the war. Rocky and steep, the hill marked the far left of the Union defenses. On the second day, almost 5,000 Confederate soldiers began an assault against fewer than 3,000 Union defenders. Despite their advantageous positions, Union forces had a difficult time repulsing the Confederates, who used their superior numbers to charge up the hill again and again. At the end of the Union line, the 20th Maine, a unit of several hundred men led by Joshua Lawrence Chamberlain, found themselves out of ammunition and facing another attack. Chamberlain, a professor from Bowdoin College who left his job to fight, realized that if the Confederates captured the hill, the entire Union Army would be in danger. With no real options, he ordered his men to fix bayonets and charge down the hill. Upon seeing crazed Union soldiers and bayonet tips coming toward them, the Confederates dropped their rifles and surrendered.

Bayonet charges and glorious heroics make for good history, but they do little to reveal what it was like for the men who fought. Chamberlain, with little practical military experience, managed to lead his unit to a decisive victory without reinforcements or even bullets. Seeing the ground on Little

Round Top lets us imagine a little better what was going through his mind on that day. Rocks laid all over the ground, the air filled with smoke from unceasing gunfire, and the sounds of the injured filled the air. Not only was Chamberlain wounded in the foot, but he also had to worry about his younger brother, who served as an officer under his command. Seeing the small area that the 20th Maine held, and looking over the edge to where the Confederates waited for their chance to attack, Chamberlain's actions on that day become real.

Visiting every portion of the Gettysburg battlefield is an extremely daunting proposition, an endeavor that would take days, if not weeks. Grand tales such as those of Chamberlain and the 20th Maine are only a small portion of the big picture, the highlights that everyone wants to see. But other, less glorious actions, such as the decision by Union General John Buford to make a hasty defense outside of Gettysburg, thus denying the Confederates the high ground, also deserve time and thoughtful consideration. Battles seldom turn on a single event but are instead culminations of numerous decisions by varied individuals spread out over large swaths of land. Civil War communications relied on flags and horse messengers, which meant that leaders had to



A view from Little Round Top, where the 20th Maine defended the left flank of the Union line.

guess a lot and rely on others. With that in mind, one realizes that Gettysburg, the battle that saved the United States as a nation, was decided by a collection of random and hurried decisions, which makes the end result even more remarkable. ☉

Policy Roundup

JEFF DEGRASSE

Rounding up recent events shaping US and global science policy, we begin with the recent 33rd G-8 summit held in Germany in early June. In a positive move for the environment, the Group of Eight formally acknowledged that the earth is warming and, more importantly, that humans are contributing to climate change. However, while recognizing the need to reduce the human impact on the climate, the Summit Declaration falls short of serious action, such as detailed goals and benchmarks to reduce greenhouse gas emissions. Instead, more talks are scheduled at the upcoming UN Climate Change Conference and the suggested plan, endorsed by the European Union, Canada, and Japan, to halve emissions by 2050 would be “strongly considered.”

However, at home, Bush-appointed NASA Administrator Michael Griffin appeared on NPR on May 31, just prior to the G-8 meeting, and offered that he is “not sure that it is fair to say that [global warming] is a problem we must wrestle with.” But more insidious than Griffin’s comments is the fact that the Administrator quietly re-

moved the phrase “to understand and protect our home planet” from NASA’s mission statement in February 2006. It appears that full US cooperation at forthcoming UN Climate Change Conferences, as well as other environmental initiatives, may have to wait until the next administration.

A more recent Bush administration nominee is also stirring up controversy. Dr. James Holsinger has been nominated to hold the post of Surgeon General of the United States—“America’s chief health educator.” Certain to cause a firestorm at his confirmation hearing is Dr. Holsinger’s conclusion that homosexuality may lead to “lacerations, perforations, and deaths,” as noted in his 1991 review to the Committee to Study Homosexuality of the United Methodist Church entitled *Pathophysiology of Male Homosexuality*. In 2000, Dr. Holsinger co-founded the Hope Springs Community Church, which ministers to people who no longer wish to be gay or lesbian. According to Reverend David Calhoun of Hope Springs, homosexuality is “an issue not of orientation but of lifestyle.”

Wrapping up the Roundup is a glimmer

of hope from Congress. At the end of April, the US Senate overwhelmingly passed the America COMPETES Act. The act “authorizes grants for the expansion and promotion of math, science, and technology research and development, as well as education programs,” in order to increase our competitiveness in the global economy. In May, a similar bill was passed in the US House of Representatives and since the bill garners wide bipartisan support, it is expected to pass into law without much difficulty. Along with education related initiatives, the Senate bill offers much needed budget increases to the National Science Foundation, National Oceanic & Atmospheric Administration, and NASA, among others. Importantly, these budget increases are beyond the recommendations of the Bush administration. For example, the bill authorizes the expansion of the National Institute of Standards and Technology (NIST) “from approximately \$703 million in Fiscal Year 2008 to approximately \$937 million in Fiscal Year 2011,” which is over \$100 million more than the Executive Branch’s proposed budget in 2008. ☉

Black Women Scientists

Studies of underrepresented role models

ZEENA NACKERDIEN

The stories of outstanding black woman scientists have largely been untold. Moreover, the dearth of black faculty at four-year institutions, 1.3% of full professors according to recent studies (Kulis et al., 2000), adds to the need to highlight the careers of role models. One of the books filling this void is *Black Women Scientists in the United States* (1999) by Wini Warren. The book is an expansion of the author’s doctoral dissertation completed in 1997 at Indiana University (Wini Mary Edwina Warren, *Hearts and Minds: Black Women Scientists in the United States, 1900-1960*, Department of History and Philosophy of Science).

The author collected profiles of 104 women spanning careers from the natural sciences to physics and engineering. Several women achieved a “first” in their areas of expertise, for example, Mae Jemison, an astronaut, Marie Maynard Daly, the first black woman award-

ed a Ph.D. in chemistry, and Ruth Ella Moore, the first black woman awarded a degree in microbiology. Commitment to science and mentorship were integral to those successes, but the joys were often overshadowed by racial and sexist issues. Jewel Plummer Cobb, President Emerita of California State University at Fullerton who is noted for her work on the skin pigment, melanin, mentioned that black students were not allowed into dormitories at the University of Michigan during her undergraduate days (1940s). Although the political landscape has changed, it is striking that some black woman students today still echo feelings of social and professional isolation. Profiles of pathbreakers like Cobb and others underscore the importance of mentors/teachers.

Angie Turner King, a chemist and mathematician, represents one of those teachers that educated a generation of

black scientists. One of her stars, Katherine Coleman Goble Johnson, published studies that would form the theoretical framework for launching, tracking, and returning vehicles in space (Skopinski T.H. and Johnson, 1962). Angie King’s dedicated college teaching career started with the instruction to “get a chemistry lab fixed up, so that the students would know what a real laboratory was like.” The number of successful black scientists trained by her at West Virginia State college reveals that she did much more than “simply show them the lab.”

Jessie Isabelle Price, born in 1930 and raised in a single-parent home in Montrose, Pennsylvania, opted for studies in veterinary microbiology at Cornell University in Ithaca. She became a recognized authority on avian diseases following publication of her dissertation work and managed to culture the previously uncultured

continued on page 8



*This month, Natural Selections features Charu Chaudhry, Postdoctoral Fellow in the Mackinnon Laboratory
Country of Origin: India*

New York State of Mind

1. How long have you been living in New York? Three years, since the beginning of my postdoctoral fellowship. But my family moved to New Jersey when I was in high school, so I've been in and around New York since then.

2. Where do you live? Faculty House—I live on the 26th floor overlooking the Queensboro Bridge.

3. Which is your favorite neighborhood? I like exploring different neighborhoods, getting on the subway and getting off wherever I suddenly decide to look around. You discover more interesting things this way. I gravitate towards Central Park—especially near Bethesda fountain where there is an amazing mandolin player. I also enjoy going to the Upper West Side—at Lincoln Center musicians play outside during the summer. There are also street fairs and a farmers' market close by. I really love walking to MoMA and reading on the front steps under the pillars until dusk. Chinatown is also fun. You walk amidst the colors and life—I love the lanterns strung up, the fresh fruit carts, and the fish market.

4. What do you think is the most overrated thing in the city? And underrated? The most overrated thing about New York is that how everything is easily accessible and available anytime. It actually takes a while to get from place to place. The most underrated thing is all the possibilities at every corner—if you have an adventurous spirit.

5. What do you miss most when you are out of town? The sidewalks and seeing birds swooping down from the top of buildings in synchrony. The breeze and how it changes direction because of the architecture. The energy and eccentricity.

6. If you could change one thing about NYC, what would that be? Homelessness. I just recently saw a father and daughter who were homeless in a subway station—it was heartbreaking to see.

7. Describe a perfect weekend in NYC. The perfect weekend starts after one of my experiments works. Then, I can experience the peace and freedom of a full day. I pack my bookbag with my favorite things—papers and books, a notebook to write in, a camera to capture anything interesting or beautiful, and walk and read in interesting places that inspire me. It's great to come home exhausted after

taking in the sights and sounds of the city, and taking time to reflect and observe the world around us. But more often than not, catching up on sleep and waking up late, going running in Central Park, walking to a favorite place and reading, having a long talk with a good friend, playing my flute, or eating Sunday night family dinners all make a perfect weekend.

8. What is the most memorable experience you have had in NYC? I remember getting stuck in a major thunderstorm while trying to get to a fireworks show in Central Park with my friends. We all

hovered under a canopy on the street till the deluge subsided. We could hear the firecrackers in the distance and just as we neared the Park we saw the finale through the trees, completely drenched and laughing.

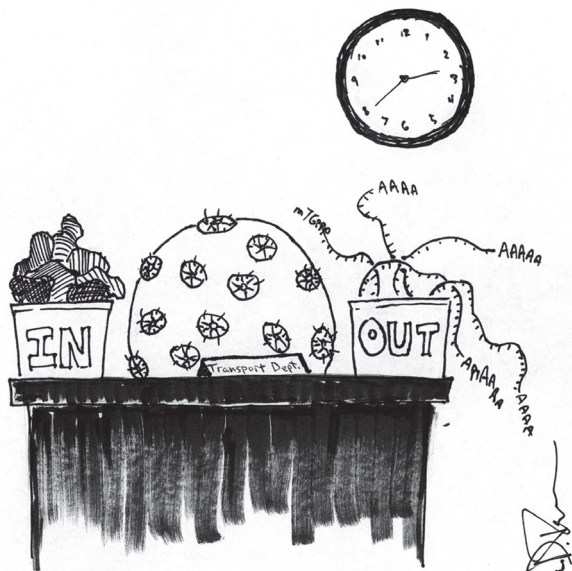
9. If you could live anywhere else, where would that be? I would consider living in India for a while, at some point in my life, to better understand where I am from. If I could, I'd like to live on each continent and experience the vastness and diversity of geography and culture. But, long term, I'd say California.

10. Do you think of yourself as a New Yorker? Why? I really don't see myself belonging to any one place, maybe because I was born in Bombay but then grew up in several countries before moving to the United States. There are common threads that connect all people and I feel that strongly wherever I am. ☺



ACADEMIA NUTS

cartoon by Sean Taverna



Some Scottish Visitors in the Philosophers' Garden?



In Our Good Books

The reading suggestions have been kindly written by staff members of the downtown bookstore McNally Robinson.

Fragments, by Jean Baudrillard: The great Baudrillard just passed away, and what a bummer; he was still putting out great stuff into his later years, and if you have never read him, this is a great introduction. In this series of interviews, you get to read how he speaks, which is truly a thing of beauty. He delves into his thoughts on the Situationists, Barthes, Bataille, and other pieces/fragments of his major thoughts at the time. This is one of the few books that I pick back up to reread, actually.

Triangle, By Katerine Weber: The infamous 1911 Triangle Shirtwaist Factory fire in Greenwich Village killed hundreds of garment workers, mostly women, because of the horrific labor practices of the company. Weber's crystalline and compassionate novel listens to one of the survivors, now an old woman trying to tell the story she thinks everyone wants to hear. This is a novel of family, memory, music, womanhood, personal outrage, and ideological blindness, and the secrets of the story reveal themselves slowly until the stunningly orchestral climax. A novel with history and emotion that leaves a mark on a reader.

Measuring the World, by Daniel Kehlmann: An international bestseller, *Measuring the World* has been translated into eight languages. Kehlmann is a new generation German writer. His work departs from the dark, depressing novels of Suskind, Grass, and Jelinek. The story's two main characters are highly respected German scientists of the Enlightenment who are both obsessed with their work but are as different as night and day. One spends all his time secluded in his study. The other is an explorer who leaves nothing unmeasured. With great humor, Kehlmann draws on their differences and how out of touch they are with the evolving world around them. The writing is simple, digestible, and free of scientific jargon. A masterpiece.

The Autobiography of Malcolm X, as told to Alex Haley: A rare breed walked up to our cash desk and asked for *The Autobiography of Malcolm X*. He'd suggested it to his book club, no one had read it.

He was slightly annoyed and surprised. That may be due to the fact that it is a glowing piece of work, as brutal as it is beautiful, a story as American as apple pie. The journey is transformative for the reader as well. It is difficult to put down except to ponder a point or catch your breath. Our customer thought it should be required reading in high schools. Me too. The book is powerful enough to both enrich minds and embrace the history of a man turned legend.

Intuition, by Allegra Goodman: Despite the chicklit-inspired cover, *Intuition* is both serious fiction and serious science. In this story of an accusation of malpractice in a research laboratory, Goodman reveals the foibles, idealism, ambition, and humanity of the American men and women working in grant-based scientific research. Her skillful narration captures the situation from multiple perspectives for a story that's suspenseful, nuanced, and honest. I often have a hard time caring about science, but I cared deeply about the characters and truths at stake in this book.

EVENTS

Every Saturday at 12 p.m., Spanish Language Discussion Group. Practice your Spanish with Javier Molea, our resident Spanish language literature expert. Javier owned a bookstore in Montevideo, Uruguay, where people gathered on Saturdays to discuss books. He has brought that tradition to our store. No preparatory reading is required; Borges, Cortazar, Fuentes, and all of the greatest Latin American writers are discussed.

First Monday of every month at 7 p.m., McNally Robinson Book Club (downstairs). The staff of McNally Robinson leads a monthly book club with a focus on international literature. Wine is served, contemporary literature is discussed with passion and intensity, and everyone is welcome. This summer the Book Club will be reading great post-War Japanese novels. Please read the featured title, displayed on our Events Table, before attending the Book Club. ☉

McNally Robinson independent bookstore is well worth a visit, they have a fantastic selection of books on their shelves. The store is located in NoLIta at 52 Prince Street between Lafayette and Mulberry. Visit them on the Web at <http://www.mcnallyrobinsonnyc.com/>



Natural Selections is not an official publication of The Rockefeller University. University administration does not produce this newsletter. The views expressed by the contributors to this publication may not necessarily reflect views or policies of the University.

'Black Women Scientists' continued from page 8

turable pathogen, *Pasteurella anatipestifer*. This bacterium had been responsible for the deaths of 30% of edible waterfowl in eastern Long Island at the time. Her meticulous surgical and scientific skills also revealed other infectious agents responsible for duck deaths, *Pasteurella multocida*, *E. coli*, and duck hepatitis. She developed *Pasteurella* vaccines that were used commercially in the Midwest and in Canada. Price also conducted studies on *Mycobacterium avium* in order to understand why avian tuberculosis is so prevalent in the endangered species, whooping cranes. Her most recent work involved the development of mutant oral and subcellular *Pasteurella multocida* vaccines.

Together with the significant accomplishments of the other women, these stories highlight the different paths that black woman scientists have taken as spontaneous choices or to overcome obstacles. Apart from redressing a historical imbalance, this book adds to the discussion of factors hindering and supporting the production of woman scientists overall in the United States. ☉

References:

- Kulis, S., H. Shaw, and Y. Chong, 2000, *External labor markets and the distribution of black scientists and engineers in academia*, J. Higher Edu., v. 71, p. 187-222.
- Skopinski T.H., and K. G. Johnson, 1962, *Determination of azimuth angle at burnout for placing a satellite over a selected earth position*, NASA, p. 34.
- Warren, W., 1999, *Black Women Scientists in the United States*, Bloomington, Indiana, Indiana University Press.