



Natural Selections

A NEWSLETTER OF THE ROCKEFELLER UNIVERSITY COMMUNITY

WOMEN AND THE SCIENCE PIPELINE

AILEEN MARSHALL

In January, Lawrence Summers, president of Harvard University, made some provocative statements about women's lack of ability to succeed in science (see *Natural Selections* Issue 13). While Summers was widely criticized for his remarks, they did bring up the debate on the reasons why there are fewer women in the upper echelons of science. It seems that there is still much gender discrimination, but it has become subtler over the years. Scientific research on the problem pinpoints areas where discrimination can occur; unfortunately few researchers have come up with solutions.

Summers spoke about the role of "intrinsic aptitude" in under-representation of female scientists. In a bell curve of male vs. female IQ scores, the medians are very close, with males slightly skewed to the higher scores. As this bell curve has been redrawn over the years, with the most recent data, the gap between the male and female scores at the high end has decreased. Also, this gap varies from country to country. The factors date and location indicate that the gap between male and female high IQ is due to societal reasons¹.

Female scientists have always faced discrimination during their careers. Until as recently as the 1970s this discrimination was very blatant. In 1977, a female researcher in psychology was asked by a famous faculty member during a job interview, "Who did your research for you?" She wrote an essay on her experiences in which she noted that at that time it was very common at professional meetings to see a joke slide of a semi-dressed woman². While such insensitive behavior would draw much negative feedback today, more subtle discrimination still exists in society and in science. The advent of Title IX of the Education Amendments of 1972 (prohibition against discrimination on the basis of sex from any educational program or activity) led to a significant increase in the number of

females entering the field of science and occupying entry-level positions in the 1970s. It was a widely held belief that once these women were promoted, the proportion of women in the upper ranks of academic research would increase. This has not happened. In 1996, women made up 51% of the population and 46% of the labor force, but only 22% of the science and engineering work force³. Although there have been

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other legislative efforts to boost women's involvement in science, such as The 1980 Science and Technologies Opportunities Act⁴, women are still statistically less likely to have a successful career.

One explanation for the low percentage of female scientists is a high rate of loss of women during the stages of career progression, known as the "science pipeline." Many girls drop out, but hardly any drop back in, especially after high school. Efforts to fix this attrition consist of three different strategies: increase intake, prevent leakage, and make it easier to drop back in.

There is a range of factors at each stage of the "science pipeline" that contribute to leaks. From the outset, family and parental support forecast girls' perseverance in

science. Secondly, in elementary and high school, it has been recognized that teenage girls drop behind in science and math⁵. Studies have shown that the mere presence of boys in the room can lower girls' math scores¹. The third stage of female departure is at college. The freshman year is the most critical; it is when women disproportionately drop out of science. Women tend to receive less faculty support, which has been shown to be a very important factor in the science pipeline. In addition, it has been acknowledged that male peers can make science classes inhospitable for female students. However, it is controversial as to whether female colleges are effective in nurturing women's ambitions in science. In 1993, Wellesley's Pathways Report discovered a 36% attrition rate from science by Wellesley's alumnae. The fourth step is graduate school where women have been reported to have lower self-confidence than their male peers. Finally, during later stages of their career, a higher proportion of female than male scientists are married to other scientists and face the problem of finding two jobs in the same area. Women report family obligations as the main reason for leaving science⁵.

A major study in 1997—the Dartmouth Women in Science Alumnae Survey—sought to determine the career paths and the important factors determining these paths for science, math, and engineering alumnae. Responses to three questions were provided by a total of 724 alumnae (from the classes 1973 through 1996). The first question was: Did you continue in science after leaving Dartmouth? 72% of the respondents had continued on to post-graduate degrees: 33% for Masters and 39% for a Ph.D. Of the 81% of the respondents who were employed, a heartening 80% were currently or recently employed in science. Moreover, 45% said that their current or most recent job related to their undergraduate major.

In response to the second question of what factors during college encouraged or discouraged them in their careers and in the decision to get an advanced degree in science, the reasons given from those who had left or were considering leaving science were: a) advantages of non-science careers and concerns about a science career, b) feelings of inadequacy or disinterest, and c) influential incidents in college, graduate school, or the workplace. Negative gender-related issues were cited by 63% of respondents, including the small number of female students in science classes and the small number of female science faculty. Formal advising was also considered a negative influence. Influential encouraging factors were: course work (cited by 59%), informal advising (67%), institutional structure (63%), and positive out-of-classroom learning experiences (85%).

To the third question, what recommendations do alumnae have to prepare women for science, the answers were mostly concerned with women's issues and perspectives. Formal advising was the category most cited as in need of improvement and respondents emphasized the importance of faculty support and mentoring for a career in science. Dartmouth's Women in Science project, which provides research opportunities, information, and support, was rated as making a positive contribution by 83% of the respondents. This program provides research internships, a peer mentoring program, an industrial mentoring program, special events, and a newsletter⁶.

At the next step in the pipeline, the career track, studies show that women face discrimination. A 1997 study analyzed the awarding of postdoctoral fellowships at the Swedish Medical Research Council. The Swedish Freedom of the Press Act enabled researchers unprecedented access to peer reviewer evaluation sheets, and the paperwork from the 1995 round of postdoctoral applications was analyzed. In that year, 114 applications were submitted from 62 men and 52 women, and awards were made to 16 men and 4 women. In this postdoctoral fellowship evaluation system each applicant is given a score that is a multiple of scientific competence (typically number and quality of scientific publications) and assessment of their research proposal. Female applicants received lower average scores than men, with the largest difference occurring in the score for scientific competence. However, when the researchers did their own analysis

of the applicants' publication records (using a range of criteria including total number of publications, first author publications, impact factors of journals published in, and total citations), they found that women with comparable publications to men received significantly lower scientific competence scores from reviewers. The authors calculated that a female publication record had to be 2.5 times more scientifically productive than a male's application to achieve the same competency score—on average, this represented about three extra papers in *Nature* or *Science*. In the 1995 data set, only the females with the best publication records received competence scores equivalent to men. However, these women's scores were equivalent to the least productive male applicants⁷.

One quarter of the applicants to the European Young Investigator awards this year were female. The first round of selection reduced the proportion to 20%. While 10% of the men applying made the shortlist, only 4.7% of women did. The random chance probability of the female proportion being cut to half of men is only 0.05%⁸.

In a study on *curricula vitae* (CV), researchers sent out two identical CVs to 238 academic scientists, one with a female name, and the other with a male name. Employers were more likely to recommend hiring the male candidate than the female candidate, regardless of whether the viewer was male or female⁹.

At late career stages, studies have found that qualified women tend to back away from research universities because of the impediments they see in balancing high-powered professional jobs and family, and because of discrimination issues. At MIT, university discrimination came under the spotlight in the 1990s due to Nancy Hopkins' famous study of the status of female faculty there. Her study determined that from the 1970s through the mid-1990s the proportions of female faculty at MIT remained at around 7%, despite the fact that the national number of female science PhDs had been growing steadily. In 1995, women made up only 6.2% of senior faculty at MIT. It was also discovered that while male senior faculty had significantly more lab space than male junior faculty at MIT, female senior faculty had no more lab space than any junior faculty. In 1999, MIT president Charles Vest confessed openly that the university was guilty of gender bias. After the Hopkins study, the proportion of fe-

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male faculty at MIT grew by 50%¹⁰.

To widely survey the issue of university hiring of women, in 2005 The Graduate Employees and Students Organization at Yale, along with graduate students from Columbia and University of Pennsylvania compiled a report, "The (Un)Changing Face of the Ivy League," using data from the Integrated Postsecondary Education Data System at the US Department of Education. The report found that in 1993 14% of all tenured faculty were women, but by 2003 that percentage had increased to 20%. In 2003 Ivy League campuses recruited 443 new professors into tenure-track jobs, with 150 (34%) of these new hires being women. However, the report showed that there is a higher percentage of women in non-tenure track positions. In recent years Ivy League schools have increased their teaching staff by hiring more graduate students and adjunct professors, which are non-tenure track positions. These jobs tend to pay less, have fewer or no benefits, and are less secure than tenure track positions. The Ivy League has created a two-tier system: Women populate the lower tier with no hope of tenure, but men are the majority in the higher status upper tier. It seems that it's not enough to create an administrative position to correct the gender disparity; the report recommends school-wide efforts. Labor unions seem to have made significant strides towards equity at universities, lobbying, for example, for the release of data on gender among the student body and faculty. Such transparency helps to make progress towards gender equality. Unions also push for higher wages and better benefits, which tend to help lower tier employees. In addition, better job security helps improve the academic freedom of the

A Sketch of Portugal and its People: Part I

VASCO BARRETO

lower tier. The New York University graduate employee contract increased earnings in general by about 40%, which had the most impact on the lower wage earners. The report states that improvements in parental leave, tenure timelines, flexible hours, and childcare options will level the playing field for women in academia¹¹.

Recently, Dr. Christine Nusslein-Volhard, director of the Max Planck Institute for Developmental Biology, has come up with her own solution to help women in science. Her plan is based on the fact that in the early stages of a science career, a woman doesn't have the money to hire domestic help that would allow her to reach a certain level of professional achievement. She wants to keep distinctively capable women in science that would otherwise wind up "working" for their husbands. Her foundation will award its first of five grants this summer for the equivalent of \$500 a month for a period of one to three years¹².

Considering the issue closer to home, how are women scientists treated at The Rockefeller University? This will be explored in depth in the next issue of *Natural Selections*. ☉

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I read somewhere that Portugal is a country that has been in steady decline for the last four centuries. Allow me to correct that view. Portugal is a country that has been in steady decline for the last eight centuries, essentially ever since its birth. Being in steady decline is part of our nature. If success were to happen to us, say, by accident, we would lose our identity. Every Portuguese struggles with this reality. The Portuguese intelligentsia is constantly analyzing the causes of our poverty and misfortune, oscillating between a paralyzing pessimism and a miraculous solution that will fix the country and the people within a generation's time. It is not surprising that we have turned into a bipolar and self-delusional nation. The thesis I adopt here borrows very little from genetics. The Portuguese are culturally streamlined for failure. No one knows precisely why it is so, but it is inescapable.

Portugal had its first national hero centuries before we became a nation. This is not unusual, but it's a revealing start. Meet Viriato (179-139 B.C.), a warrior chieftain of a tribe (the "Lusitanos") from the western Iberian Peninsula, who held off the Roman invasion for several years. Viriato was so good at throwing stones from cliffs at the Roman Legions and in using guerrilla tactics that he had to be murdered in bed by three of his own people, who had been bribed by the local centurion. When Hollywood runs out of the most obvious epics, they will immortalize Viriato on the big screen. Portugal will then lobby to choose a star that is Portuguese enough. Mark Ruffalo or Danny De Vito? Tough choice. Viriato gave us national pride. From the Romans, in turn, we got a unified language, industries, military roads, bridges, administrative centers, and a religion, when Rome converted to Christianity in the fourth century A.D.

Our second hero was the founder of the nation, Afonso Henriques (1109-1185 A.D.), son of the crusader-knight Henry, and Teresa, the illegitimate and favorite daughter of Alfonso VI, king of León. In 1096 A.D. Henry received from Alfonso VI a hereditary title to the province of Portucale (roughly, today's north of Portugal). By then that land was a sort of buffer zone between Christian and Muslim territory. Muslims had moved to the Iberian Peninsula in the eighth century A.D., after the Germanic invasion that contributed to the decline of the Roman Empire. Henry was a loyal vassal to Alfonso VI, but upon the king's death and the civil

war that ensued between Galician, Castilian, Aragonese, and Leonese barons, he wisely remained neutral and abandoned his feudal obligations. After his death, his wife Teresa pursued this policy but when the Leonese Alfonso VII ascended to the throne, he forced Teresa to pay homage to the kingdom of León and Castilla. The nobles of Portucale, however, who had learned to appreciate their independence, rebelled against Alfonso VII and implicitly, Teresa. They were guided by Afonso Henriques, who had armed himself as a knight and managed to defeat his mother's army. He would ultimately become an acclaimed and self-made king, by fighting the Muslims in the South and containing Alfonso's march on Portugal.

I do not intend to bother you further by extending the list of Portuguese heroes, but Afonso Henriques' accomplishments were worth mentioning on two grounds. First, gaining independence from our big and only neighboring kingdom (today's Spain), left a wound that future wars and a Spanish occupation of the country from 1580 to 1640 A.D. did not help to heal. Modern relations between Portugal and Spain are excellent, that is, we no longer fear them and they continue to ignore us, a fact that our collective ego does not allow us to appreciate fully. Nevertheless, discussions over the control of the rate of streamflow in Portugal's main rivers (unfortunately they all flow from Spain) or a mere soccer match are sufficient to unmask this hidden and mostly unidirectional tension between the two nations.

Secondly, although Afonso's rebellion against his mother was purely political and less Freudian (*hélas*, his father had died) than I would like to think, it set the tone for centuries of betrayal, politically motivated marriages, illegitimate descendants, quasi-idiotic heirs to the throne, and a lethargic noble class; in short: a display of pure European monarchy. Luckily we became a Republic in 1910, but soon we smoothly transitioned to a dictatorship that lasted half a century, most of which ruled by Salazar (1898-1970). In 1974 a military coup d'état put an end to the dictatorship and eventually paved our way to "the worst form of government except for all those others that have been tried."

Today, Portugal has about 10 million people living within its borders and there are sizable Portuguese communities in France, the US, Brazil, Venezuela, and South Africa. The country is homogenous in terms of religion, ethnicity, and language, and there are no serious separatist

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(Correctly) Defining the Stance of the Catholic Church on Evolution

JUSTIN McMANUS

One hundred and forty-six years after the publication of Darwin's *The Origin of Species*, it remains widely controversial whether the modern theory of evolution (neo-Darwinism) can be reconciled with the world's three great monotheistic religions. In particular, there is still widespread dissent among Christians—both within and between denominations—about whether neo-Darwinism is truly consistent with their faith. The debate stems both from differing interpretations of scripture and, more subtly, from disagreement about what the theory really implies about the ultimate causation of life and its development. Even in the Roman Catholic Church, which rejects fundamentalist interpretations of the Creation Story, opposition to evolution has recently sprouted. In the July 7, 2005 issue of *The New York Times*, Cardinal Christoph Schönborn, the archbishop of Vienna, published an opinion-editorial (op-ed) in which he claims that neo-Darwinism is in no way compatible with Christian faith. Two days later, *The New York Times* printed another article about Schönborn's position, entitled, "Leading Cardinal Redefines Church's View on Evolution." Despite the sensationalist title, Schönborn's letter hardly redefines the Church's traditionally supportive stance on evolution, although it does make several simultaneously shocking, disappointing, and misleading assertions that require a response. Schönborn misunderstands the modern theory of evolution itself, and even worse, he misrepresents the Catechism of the Catholic Church and downplays the viewpoint of the late, much beloved John Paul II.

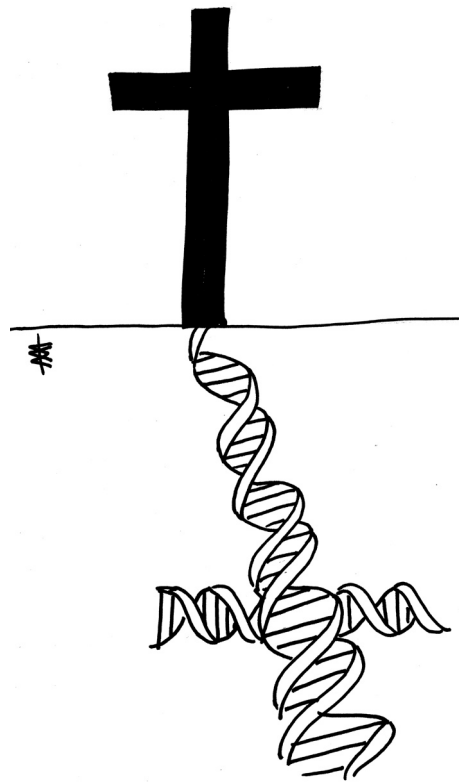
In his letter to *The New York Times*, Schönborn writes:

... defenders of neo-Darwinian dogma have often invoked the supposed acceptance – or at least acquiescence – of the Roman Catholic Church when they defend their theory as somehow compatible with Christian faith. But this is not true.... Evolution in the sense of common ancestry might be true, but evolution in the neo-Darwinian sense – an unguided, unplanned process of random variation and natural selection – is not.

Cardinal Schönborn's assertion represents an intellectual and theological break with the Catholic Church's long-standing

recognition of Darwinian evolution. Even in a 1950 encyclical written expressly to attack contemporary heresies, Pope Pius XII acknowledged the legitimacy of evolutionary research:

...the Teaching Authority of the Church does not forbid that ... research and discussions ... take place with regard to the doctrine of evolution, in as far as it inquires into the origin of the human body as com-



ing from pre-existent and living matter—for the Catholic faith obliges us to hold that souls are immediately created by God.

John Paul II, in his address to the Pontifical Academy of Sciences in 1996, went even further, saying:

...[Pius'] encyclical *Humani Generis* considered the doctrine of "evolutionism" a serious hypothesis, worthy of investigation and in-depth study equal to that of the opposing hypothesis.... Today, almost half a century after the publication of the encyclical, new knowledge has led to the recognition of the theory of evolution as more than a hypothesis.

Schönborn's op-ed completely ignores the implications of Pope Pius' encyclical,

and it discounts John Paul's 1996 comments as "rather vague and unimportant." But John Paul's viewpoint was neither vague nor unimportant. In his address, John Paul explicitly called evolution a unified theory, a framework for explaining a series of independent observations, which has been corroborated by the convergence of results from several disciplines. Furthermore, John Paul realizes that there are numerous philosophical interpretations that often accompany the theory, including the so-called materialist and spiritualist ideologies, and that the real distinction lies in the interplay between philosophy and science. Following Pius XII, John Paul asserts that the only condition necessary for uniting evolution with Catholicism is the admission that—whatever the origins of the physical body—the human spirit is created by God. He rejects only those neo-Darwinian ideologies that regard the soul as an emergent property of living matter. John Paul goes on to propose "an ontological leap" between man and his evolutionary predecessors, a discontinuity associated with the appearance of souls in human beings. He admits that his leap seems to contradict notions of physical continuity in the universe, but he points to the fundamental differences between science and theology, between the physical world and the supernatural. The methods of science are inherently incapable of describing events like "the moment of transition to the spiritual," as John Paul calls it, and the lessons about continuity drawn from the physical sciences cannot be applied to the supernatural. John Paul's vision of the physical evolution of man, combined with the mystical infusion of his soul by the Lord, is both beautiful and logically consistent. John Paul developed a coherent theological system for linking evolution with Catholic dogma, and he did it in the most germane of settings: in an assembly of the Pontifical Academy of Sciences, a group of elite scholars charged with informing the Vatican about modern scientific developments.

Almost unbelievably, and despite complaining that John Paul's 1996 statements were vague and unimportant, Cardinal Schönborn refers instead to comments the late pope made eleven years earlier to a general audience. Nowhere in the statements quoted in Schönborn's letter does John

Paul explicitly mention the compatibility of evolution with Catholicism; in fact, his remarks are more a denunciation of materialism than a commentary on evolution. Continuing his inexplicable trend of alluding to loosely related material, Schönborn cites the Catechism of the Catholic Church, the authoritative compilation of Catholic dogma. But, again, the catechism on creation does not even mention the theory of evolution, although it does reject deism and materialistic philosophy.

If anything, the catechism suggests a way to soothe the common complaint that evolutionary theory seems to rule out a causal role for God in the development of life. In the catechism we read:

And so we see the Holy Spirit, the principal author of Sacred Scripture, often attributing actions to God without mentioning any secondary causes. This is not a “primitive mode of speech,” but a profound way of recalling God’s primacy.... God is the sovereign master of his plan. But to carry it out he also makes use of his creatures’ cooperation.... For God grants his creatures

not only their existence, but also the dignity of acting on their own, of being causes and principles for each other, and thus of cooperating in the accomplishment of his plan.

The idea that the Church acknowledges here is that God acts through secondary causes, which can be free and stochastic, but that the existence of those secondary causes does not lessen His ultimate authority. If the Lord allows His living creatures to interactively contribute to His plan, we should all the more expect Him to grant the same privilege to the physical, logical, and mathematical rules that characterize His universe. We can simply assert that, very broadly, all of the physical, biological, and mathematical mechanisms enumerated by neo-Darwinism are secondary causes implemented, and potentially swayed continuously, by God. Allowing biological organisms to evolve (more or less) freely and stochastically according to the logical underpinnings upon which God built the universe is perhaps more elegant than rigidly controlling Creation. Moreover, it is false to assert, as Schönborn does, that neo-

Darwinism necessarily implies that evolution is “unplanned and unguided.” Evolution is a scientific theory that does not, and cannot, contradict the idea that the mechanisms of evolution follow immediately and necessarily from the logical structure of a universe created by an unmoved Mover. The very construction of a universe whose rules lead to Darwinian evolution implies that the consequences of evolution are not strictly “unplanned.” Nor does the theory preclude the possibility that natural selection, genetic drift, and gene flow are mechanisms, or secondary causes, that God uses (directly or indirectly) to implement His plan.

Cardinal Schönborn has fundamentally failed to recognize the notion John Paul alluded to in 1996. The question is not whether the major mechanisms of evolution really occur; they almost certainly do. The issue is how theology and philosophy relate to the theory. The crucial task is to distinguish between the scientific theory of evolution and the different ideological adornments that so often shroud the underlying theory.

PDA News: New Representatives

Matt Rodeheffer

I was born and raised on the shores of Lake Superior in the Upper Peninsula of Michigan. After eighteen years living in the majestic North, I escaped to Seattle to pur-

a solid dose of mitochondria at Emory, I decided to come to Rockefeller to continue my scientific work with Jeff Friedman.

I look forward to serving the Rockefeller community as a member of the PDA and I welcome any input and ideas anyone may have to offer. Please feel free to email me with any questions or comments or talk to me about them if you see me around campus. The Rockefeller University is an exceptional research institution and the postdocs and research assistants are one of the driving forces behind the university. The PDA is here to help ensure the postdoctoral experience at Rockefeller is a good one. I hope to see you around campus and look forward to working with you in the future.

Ben Short

Originally I’m from the UK, where I studied biochemistry at Imperial College, London. After a brief spell at Glasgow University in Scotland, I moved to the Max Planck Institute of Biochemistry in Munich, Germany for my PhD, studying vesicle trafficking through the Golgi apparatus with Francis Barr.

After four years in Germany, I realized I wasn’t the slightest bit homesick for either the British weather or food, so I decided to move even further abroad for my postdoc. I’ve been at Rockefeller since last October, when I joined Elaine Fuchs’ lab to work on the regulation of intercellular adhesion in mammalian skin. New York is a wonderful city to live in, especially for a music fan like me. If work didn’t keep getting in the way, I’d definitely be out every night checking out as many gigs as I could. I’m also a big sports fan—even if baseball and football don’t quite match up to cricket and soccer.

The Rockefeller University is a great place to work—thanks in no small part to the efforts of the PDA Representative Committee in expressing the needs of the postdoc community to the university administration. I hope to continue that work now that I’m a representative on the committee. Feel free to stop me if you see me around campus and let me know any concerns you have. As I see it, the PDA is here to make sure all postdocs and their families get the best out of their time at Rockefeller. ☺

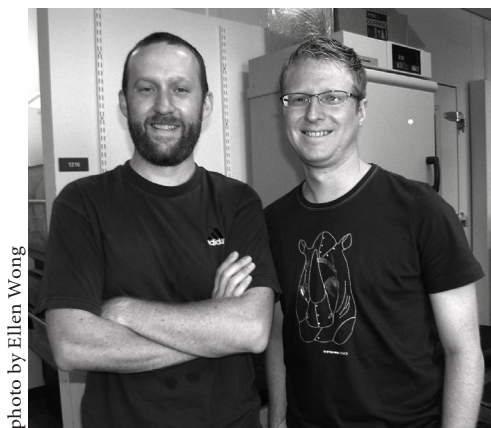


photo by Ellen Wong

Matt Rodeheffer (left) and Ben Short (right)

sue undergraduate studies at the University of Washington. I then came back to the eastern time zone, although just a bit farther south, to Atlanta where I did my graduate work in biochemistry at Emory University with Gerald Shadel. After receiving

Cuban Cuisine at Cafecito

TARI SUPRAPTO

CAFECITO

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Where does one go to find flavorful food, delicious drinks, a cozy setting, and all the above for less than \$25 per person? I chose to venture to the East Village to sample the offerings of a small Cuban restaurant named Cafecito.

The dining area has about 8 tables and is best for small groups due to the limited space. The décor is simple yet warm; exposed red brick walls with lit votives on each table, and a low noise level that allowed my companion and I to converse comfortably across our small table.

The menu is well-priced; the only items above \$10 were the specials (shrimp in garlic sauce and the fish of the day, Chilean sea bass; \$12 and \$13 respectively) and the large servings of *sangria* (\$20/pitcher; \$12/half-carafe, \$5/glass). I ordered a *Mojito Cafecito* (\$7) to sip while I perused the rest of the menu. The *mojito* was potent but not overpowering and served with an abundance of mint. Cafecito also offers a small selection of beers.

We started with the *Saborcito de Cuba* (\$6), a platter consisting of a *papa rellena* (a big ball of fried mashed potato with a ground beef and tomato filling), two *croquetas de jamon* (homemade ham croquettes), one *empanada* (a choice of beef and chicken), and three *bollos* (Cuban hushpuppies with black beans and roasted corn). The

highlight of the platter was the *croquetas*, which were crispy and tasty. I would have preferred a crispier crust for the *empanada* and less potato in the *papa rellena*, but the beef fillings in both were very flavorful. The *bollos* were greasy and over-fried—stick with the *croquetas*.

We then split a classic Cubano pressed sandwich (ham, roast pork, swiss cheese, and fresh dill pickles on crusty Cuban bread – \$6.25) and the *churrasco* (grilled skirt steak with Cuban *chimichurri* sauce and lime-cured onions – \$9.75). The Cubano was split into two large sandwiches stuffed with meat, cheese, and a zesty garlic mayonnaise sauce. The skirt steak was tender and cooked medium-rare per our request. The *chimichurri* sauce was excellent (lots of scallions and garlic), while the onions gave the steak a nice kick. Entrées were served with rice, beans (needed more seasoning), and plantains (the garlic sauce with the *tostones* is amazing). Overall, we found the portions to be very generous and the food well-prepared. For vegetarians, there are 8 dishes on the menu that do not contain meat.

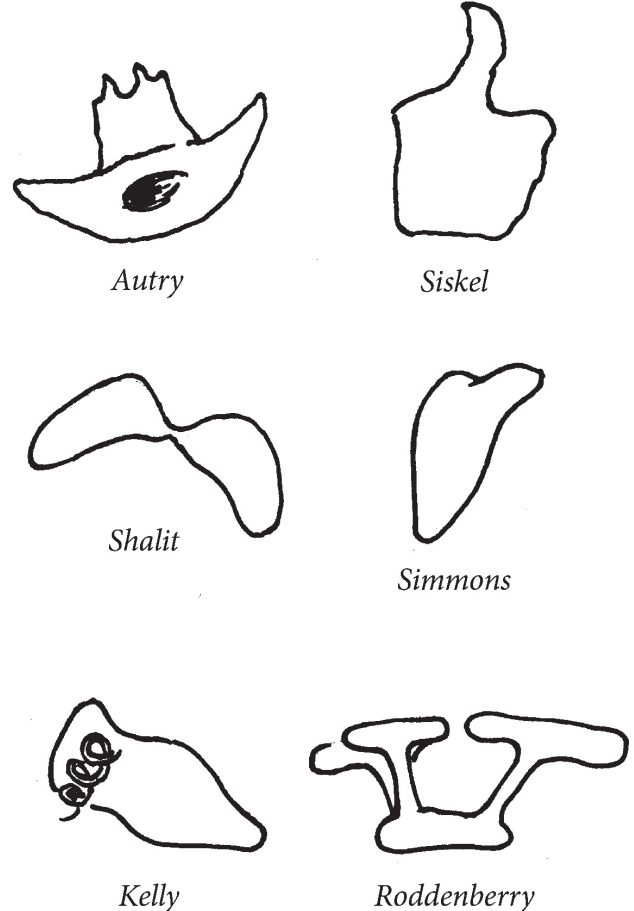
We shared a *tres leches* cake (\$3) that was a bit dry, very sweet, and served with fresh whipped cream and diced pineapple—not great. Cafecito also offers a flan (\$2.50) and chocolate cake (\$3) that we will be sure to sample next time. We closed with a cup of *café con leche* (\$1.75). The service is friendly and fairly efficient and the clientele is diverse and laid-back in attitude. Just be sure to bring cash as they don't accept credit cards. ☉

Out of Stock

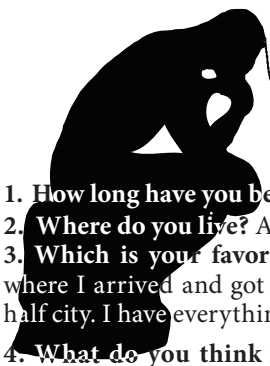
MARY ABRAHAM

Universities have recently come under pressure to withdraw from financial investments in multinational companies operating in Sudan because of genocide in the Darfur region (see *Natural Selections* Issue 16, June 2005). This newsletter requested information from the RU administration on financial investments at Rockefeller and answers have been provided by Joseph Bonner and Fred Bohlen. *Natural Selections* queried whether the university has any direct stock holdings in a list of 16 major multinationals that operate in Sudan, including oil companies such as PetroChina and China National Petroleum Company. We were told that The Rockefeller University does not currently have direct ownership of stocks or corporate bonds in any of the companies on the list we sent. We also wanted to know whether the university has any indirect investment in the companies from investments such as hedge funds. We were told that the university is not informed about the details of investments made through such funds: "Some of the university's investments are with so-called hedge funds and other pooled investment funds – based on investment criteria and performance. Institutions, including Rockefeller, that use such pooled investment vehicles do not receive information on specific investment holdings." Does the university have any general policies or procedures on making investments if there may be an ethical conflict? We were told: "Rockefeller University has not applied ethical or other non-economic, non-financial criteria to the choice of investment managers or investment funds. The issue has not received policy level consideration by successive administrations or by the university's Board of Trustees in recent times. After being made aware of this issue by the *Natural Selections* article, Dr. Nurse has had preliminary conversations about this matter with trustees and university officers and will continue these in the next academic year." ☉

Crystal Structures of Proteins from Famous Genes



cartoon by Sean Taverna



This month, *Natural Selections* features **Alicia Galicia**, *Catering Attendant, Food Service*
Country of Origin: Mexico

New York State of Mind

1. **How long have you been living in New York?** 15 years
2. **Where do you live?** Astoria, Queens
3. **Which is your favorite neighborhood?** Queens, because it's where I arrived and got used to. It is nice and quiet, half village, half city. I have everything I need around there.
4. **What do you think is the most overrated thing in the city? And underrated?** Times Square and Fifth Avenue are overrated. Too commercial, very crowded and noisy. Central Park is also too crowded, with too much commercial stuff going on. The Museum of Natural History and the Botanical Garden in Brooklyn are underrated.
5. **What do you miss most when you are out of town?** The public transportation. In Chicago and New Jersey, for instance, the public transportation is very bad. Here I have all the liberty and facility for transportation I need.
6. **If you could change one thing about NYC, what would that be?** More vigilance on the subways.
7. **Describe a perfect weekend in NYC.** A barbecue at the beach (Seven Lakes in New Jersey) with the family. If I didn't drink too much, I would go to the park to play basketball and then watch a movie. If there were a good concert in some park,

I would also go.

8. **What is the most memorable experience you have had in NYC?** The first work I had when I arrived in the US. I was a babysitter with an American family in the military base of Fort Dix during the First Gulf War. I did not speak any English at all.

9. **If you could live anywhere else, where would that be?** Probably Chicago. My sisters live there. It is very different from here as everything is quiet by 8 pm. I only like it for visiting but, on the other hand, I also feel more like back in Mexico with the family, the food, the people in *el barrio*. It is full of hat stores like in Cuautla, Morelos where I am from. They even have a plaza for *jaripeos*, the *charro's* party with horses and bulls.

10. **Do you think of yourself as a New Yorker? Why?** Yes, because I wouldn't change New York for any place else. I am used to New York's lifestyle, I like the noise and the fact that everything is always open. ☺



photo by Pablo Meyer

Silly Points and Short Legs

SRIRAM

It is not true that the English invented cricket as a way of making all other human endeavors look interesting and lively; that was merely an unintended side effect. I don't wish to denigrate a sport that is enjoyed by millions, some of them awake and facing the right way, but it is an odd game.

-Bill Bryson

Cricket and the rail network are perhaps the biggest legacies of the British rule in India. A passion for cricket, in many ways, is an inevitable consequence of growing up there. Not surprisingly, the game is most popular in the Indian subcontinent (India, Pakistan, Sri Lanka, and Bangladesh) and the best players are almost revered as Gods.

International cricket, until recently, was played in two flavors: the test match and the one-day international (ODI). A test match can continue for up to 5 days (3 sessions of two hours each per day, with breaks for lunch and tea). It is considered to be the true test of a cricketer's skills and is the original format in which the game was played. It is also the form of the game that is least comprehensible to the uninitiated and invites condescending remarks like the one above. The ODI, on the other

hand, is a shorter version of the game that lasts for a day (two innings of about 3.5 hours each). A relatively recent invention, the ODI is the flashier version of the game. For that reason, it is more popular amongst fans, game administrators, and corporate sponsors. Of late, an even further truncated form of the game called Twenty Twenty has been in vogue. It promises three hours of exciting cricket but is abhorred by the purists, who feel it makes a travesty of the game.

Like other sports, cricket has its share of legendary rivalries. Matches between India and Pakistan are followed with great frenzy. Historically, however, it is the biennial Ashes series between England and Australia that has been the greatest rivalry in the sport. It is a particularly appropriate time to talk about the Ashes, as the series is currently underway in England. At the time of writing, England was comprehensively beaten by Australia in the first test match, and the familiar script of Aussie domination seems to be playing out yet again (England has not won the Ashes since 1986/87). The series is actually named after its trophy, which consists of a terracotta urn containing the ashes of bails (see reference 4) that were used in a

match in 1882. England was expected to win the match, but failed to do so. A mock obituary was written in the English press announcing the death of English cricket, which ended with the note: "N.B. — The body will be cremated and the ashes taken to Australia." The following test series between the two countries was widely publicized by the English press as the quest to regain the Ashes, and the name entered the annals of cricketing history.

Maybe you are still wondering why I titled this piece *Silly Points and Short Legs*. They happen to be names of two fielding positions in cricket. Still interested? Try googling for 'googly' or browse the links below. ☺

References:

1. Cricket Rules and History: <http://en.wikipedia.org/wiki/Cricket>
2. History of the Ashes: http://en.wikipedia.org/wiki/The_Ashes
3. Cricket News <http://www.cricinfo.com>
4. A cricket wicket consists of three vertical stumps and two horizontal bails kept between the stumps. The cricket wicket is roughly equivalent to the strike zone in baseball. See reference 1 for more details.

claims, not even from the Azores and Madeira islands, two small and beautiful Portuguese archipelagoes cast away in the Atlantic ocean. Between 1886 and 1966, Portugal lost an estimated 2.6 million people to emigration, more than any West European country except Ireland. In the last two decades this understandable tendency to abandon the country has slowed down and has been counteracted by a flow of immigrants in search of labor from Brazil, countries of the former USSR, and Africa; 400,000 immigrants live today in Portugal. We have made considerable social and economic progress in the last 30 years. For instance, literacy levels have improved and this skill is widely used by the male population to read the sports press. A key event that triggered a number of structural changes in the country was our entry into the EEC (today's European Union) in 1986. European money financed a number of projects and gave us a decent roadway. Still, a recurring topic in any discussion by and about the Portuguese is the need for a "change of mentality." No one knows exactly what this is supposed to mean and how it can be done, but we all agree that it will be more difficult to achieve than building a few kilometers of highway.

The Portuguese discoveries remain to this day our greatest accomplishment. They were, however, a burden too heavy to carry. In fact, they still are. Let's start with the word 'discoveries' and its two obvious problems. It is striking that two independent and similar actions, equally valid in merit, are judged differently by history, depending solely on when they occurred. "Who did what first" is an obsession well known to scientists but, unlike science, history can be rewritten to a large part just by playing with the dates. Thus, it is just a matter of time until someone comes up with the thesis that Brazil was not discovered by Cabral in 1500, but centuries before by the Vikings (who, apparently, got to North America before Columbus), or by the Chinese, even earlier, or by extra terrestrials, no one knows precisely when but presumably before anyone else. The second problem with the word 'discoveries' is that it is an example of eurocentrism and hidden paternalism (euphemistically speaking). Consider this: the Portuguese were the first Europeans to get to Japan, but even the Portuguese would not dare to say that we discovered Japan. Notice however how we talk about the arrival of Cabral to Brazil: we always refer to the discovery of Brazil as if the land was devoid of indigenous populations. This being said, what Portuguese sailors accomplished during the fourteen and fifteenth centuries was outstanding. Historians and intellectuals in Portugal should just agree, that what is difficult to explain is not why we were unable to rise to that level again, but simply how we did it in the first place.

Portugal's empire has left us with huge shoes to fill. One of the several ways my Brazilian friends make fun of me is by repeatedly asking for the gold we took from them when Brazil was a Portuguese colony (1532-1822). Frankly, I would also like to know where that gold went. Portugal, the mother-country, remained poor and underdeveloped, even at the peak of the Empire, before the Spanish, the Dutch, the English, and the French took over the world. ☉

He Who Must Not Be Read

WINSTON SMITH

The Rockefeller University is facing a literary crisis, sparked by the July 16 release of *Harry Potter and the Half-Blood Prince*, the 672-page wizard novel written by J.K. Rowling. With Harry Potter fever sweeping the globe, even some of the most respectable members of the scientific intelligentsia have been indulging in intellectual slum reading. A 25% slump in energy consumption at The Rockefeller University during the week of the novel's publication, compared with the same week in 2004, suggests that a substantial proportion of researchers were caught up in marathon book-reading and consequently neglecting their experiments. However, some Rockefeller professors (three neuroscientists and one immunologist) have taken the unusual and highly controversial step of banning any copies of *Harry Potter* being brought into their labs, taking a stand against what they perceive as an insidious threat of non-improving reading. Scientists in these affected labs have been told to instead choose *The Science of Harry Potter* by Roger Highfield, which explores such questions as possible mechanisms used by The Sorting Hat to interpret brain waves, or the use of adaptive camouflage in the natural world as a model for construction of an invisibility cloak. ☉



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