

Natural Selections

A NEWSLETTER OF THE ROCKEFELLER UNIVERSITY COMMUNITY

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REFLECTIONS ON NORTH CAMPUS—PART III

JOSEPH LUNA

This past month, the Collaborative Research Center—currently composed of the Greenberg and Smith Hall buildings—was formally dedicated during a university-wide ceremony for faculty, staff, and especially for the many donors who've made the renovations possible. For most, the occasion was a chance to explore the transformation of a historic building into cutting edge laboratory space, and it offered a preview of what Flexner Hall will eventually look like. The biggest and most dramatic change of course has been the Greenberg Building itself, with its soaring elliptical atrium and

floating staircase. Meant to increase the likelihood of interaction between floors, the Greenberg Building is a welcome addition to the northern end of campus and offers an inviting place to congregate, have lunch, and ponder the next big idea while gazing out the massive windows.

For some previous Smith Hall residents, the newness and glitz is understandably tempered by a nostalgia for the old labs. I recently spoke with Smith Hall veterans Peter Model and Marjorie Russel, who spent decades on the 4th floor as part of the Laboratory of Genetics headed by Dr. Model and Norton Zinder. "It's a remarkable renovation," says Dr. Russel, "though I sure miss the benches and the old cabinets." Drs. Model and Russel both expressed mild shock to hear that the windows in Smith no longer open (the building now has comprehensive central ventilation). The list of changes certainly goes on, and as we talk about them it becomes clear just how the Smith of the past and the Smith of the present are two completely different entities, constructions of their time and occupants. Dr. Model summed it up nicely, "labs are the product of the people in them. And today's Smith will be no different."

Thus it feels that the torch of scientific legacy from Smith Hall has been passed to a new generation of scientists, but at the cost of losing a sense of history of the place? Not quite, yet. With bare walls and gallery-like spaces, the Greenberg Building is poised for some sort of adornment, if not with art then with a kind of "in situ" installation commemorating the work done in both Smith and Flexner once the renovations are complete.

I recently sat down with Carol Moberg, member of the Steinman lab and noted author of a recent biography of RU microbiologist/environmentalist (and former Smith Hall resident) René Dubos. Dr. Moberg informed me that there are plans to use the Greenberg Building space for such installations, perhaps drawing from the extensive historic instrument collection to highlight Smith- and Flexner-born innovations with sculptural and informative accent pieces. To give a few examples: Smith Hall housed the famed RU instrument and glass-blowing shop (B level) where Albert Claude and Keith Porter built the first ultra-microtomes for their electron microscopy (EM) work. The electron microscopes themselves (and with them the birthplace of modern cell biology) were also found in Smith (C level) until 1960. Legend has it that during the construction of the FDR, vibrations made EM experiments practically impossible; George Palade successfully got the NY transportation department to silence its jackhammers for a few hours so he could do an



Piled drawers in the laboratory of Lyman Craig (former home of the historic instrument collection), 6th floor, Flexner Hall. Photograph by the author.

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experiment! Add the technological feats performed in Flexner such as Bruce Merrifield's peptide synthesizer (4th floor) and Lyman Craig's Counter-Current Distribution machines (6th floor), and one gets the sense of the impressive technological innovation that made its home on north campus. It also doesn't hurt that these devices, if properly displayed, can be visually striking, just as at home in modern art museum as much as in a laboratory.

With plans to re-create a more accessible "historic" lab space on the 1st floor of Flexner (from its previous home on the 6th), it appears that the legacy of scientific achievement in north campus will have a place in the modern renovation. This is heartening, because if the new Smith Hall presents the unbridled opportunity for a scientist to get to work, then an impactful display of such rich scientific legacy can also inspire one to dream big. There is courage in what went on here.

Still, there is much historical research to be done. Last month, I ended the second part of this series with the goal to find the former location of Peyton Rous' office/lab in Smith Hall. Several senior faculty recall Rous having an office in Smith in the mid-1960s, and it's tempting to imagine him receiving a long awaited call from Stockholm, informing him of his 1966 Nobel, while sitting in his office. In the time researching this article, I've not yet found conclusive evidence to place Rous' office at a precise location in Smith. The search will continue, though a part of me is ok with the ambiguity of not knowing where; perhaps his office is marked by my lab bench, perhaps it is marked by yours.

Special thanks to Peter Model, Marjorie Russel, and Carol Moberg for their time and comments. ☺

In Remembrance of Otis the Elevator

TOM McDONAGH

New York is New York because of two inventions: steel and elevators. Steel enabled the colossal towers, and elevators let us ascend them. While great steel-framed buildings of New York still dominate and symbolize our city, the original elevators have long since been lost to modern successors. Yet there is at least one elevator that has somehow survived from the era of the early sky-scrapers, and it's right here on campus.

On the second floor of Welch Hall, built into the dark-wood paneled wall, is a gold-painted door, and to its left an innocuous black button. Press it and Otis awakes with a distant clunk that echoes up the lift shaft. The original motors in the stacks heave into action with sinister sounds of approaching scraps. A light flow of air eliminates from the cracks around the door. After a chorus of clicks deep from the basement, the top windows of the door are filled with light. Otis has arrived and the door unlocks.

Yet this is the very twilight of Otis' life after a century of service. The *Benchmark* article announcing the long overdue renovation of Welch Hall dryly states "the elevator is well beyond its useful life," and President Nurse's email confirms the installation of a new elevator, sealing Otis' fate. I'm no elevator engineer but Otis takes me to my floor and that is as useful as I need my elevator to be. So take a ride in Otis before he goes for good (especially to the basement stacks at night if you're brave), and experience a working relic of the machines that raised the city. I guarantee that you'll hear better sounds than the dreary dings of our modern contraptions. ☺



The Otis elevator motor room, 3rd sub-basement, Welch Hall. October, 2010.

Photograph by Joseph Luna.

Science Communication and the 21st Century: the Twitterverse Awaits

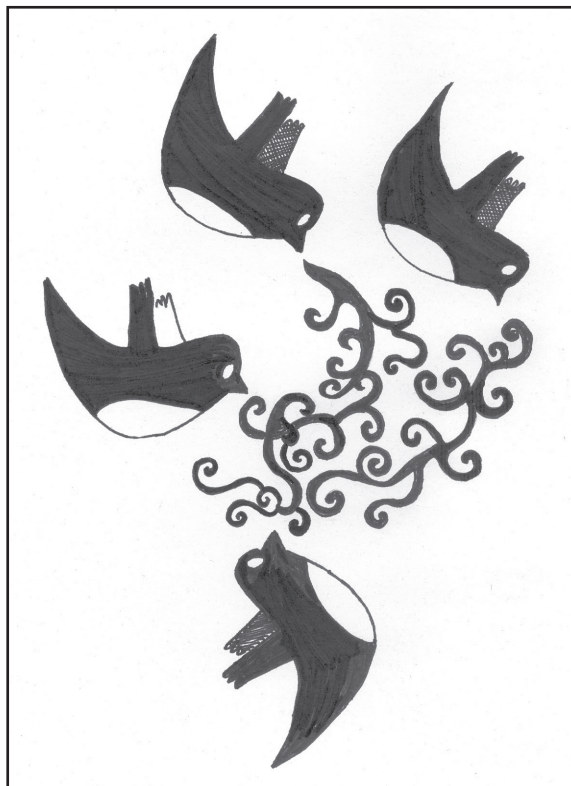
JEANNE GARBARINO

When Twitter was first introduced to the world, I thought to myself, “oh, look, someone is trying to top Facebook.” I didn’t really understand what it was and just assumed that it was another way for society to indulge in the ostentatious and all too often asinine celebrity commentary. My youngest sister, who likely represents the “normal” celebrity-obsessed teenager, had been my only exposure to Twitter and our dialogue on the topic would always surround her pop star idols (dare I say Britney Spears and Lady Gaga?). This negative view of Twitter was continually renewed with every fatuous tabloid headline quoting @[enter celebrity name here]. And, even though I found some of these headlines very funny (see @danieltosh or @michaelianblack), I was determined to avoid Twitter at all costs. That is, until a few months ago.

During the spring 2010 semester, I sat in on a lecture given by Christie Nicholson, science writer and social media guru, who provided several examples of how social media can be used to advance science. Having just launched my own blog (and being naturally interested in gaining readership), I thought maybe it was time to stop being so narrow-minded. So, I signed up. Over the next few months, I occasionally looked at my Twitter feed. I still didn’t understand how to fully utilize Twitter and thought it was pretty useless; my obligations at home and at the bench were far too great to add another layer of distraction. This all changed a few weeks ago. I am not sure what prompted me to give Twitter another try, but I am glad it happened. My eyes were opened to a whole new use for Twitter—immediate scientific knowledge. As it turns out, subscribers to Twitter go beyond that of my little sister and her favorite pop icons. People like Craig Venter (synthetic life pioneer; @jcventer), Carl Zimmer (science journalist; @carlzimmer), and Richard P. Grant (biochemist turned science writer/editor; @rpgtwit) are all “tweeting” their latest discoveries or papers. Journals, societies, universities, and bloggers are also involved. You can get instantaneous updates on the

latest publications and science news (for example, *Nature* has several Twitter accounts, such as @naturemedicine, @naturematerials, and @natureblogs). Our very own Rockefeller University is with it, providing updates through @rockefelleruniv.

Perhaps you are looking to give Twitter a try. If so, realize that there is a learning



Cartoon by Rossana Henriques

curve. Twitter has its own language and it takes some getting used to. Plus, there is a strategy to Twitter—for both maximizing your professional development and for efficiently taking in the information. Due to the massive number of subscribers, it is possible for you to become inundated with tweets at an overwhelmingly alarming rate. Here are a few tips that I learned from Alexandra Samuel in her blog post for the *Harvard Business Review* (<http://bit.ly/bVwSsR>):

- Keep track of tweets by making lists (a categorical organization of those you follow. For instance, I have lists entitled sciencebloggers, science research, and science news). Follow these lists instead of your home feed. You can also follow the lists of others.

- Time-release your tweets. You don’t want to be distracted by trying to keep up your tweeting throughout the day. You will never get your work done! Instead, schedule your tweets using tools such as HootSuite (<http://hootsuite.com>). You will still be able to tweet in real time but this is a way to help you remain focused.

- Use Twitter messaging instead of e-mails. Chances are, the person you want to talk to is on Twitter. Use the messaging service to contact them. With a 140-character limit, it keeps things short and sweet and to the point. Communication efficiency at its maximum.

- Be careful what you tweet. If you are using Twitter for professional purposes, you might want to avoid using slang or jargon. As Alexandra Samuel puts it, “you are what you tweet.”

In addition, here is a glossary of terms that will help you navigate through the Twitter geek-speak:

@: The ampersand sign is used to call out Twitter user names in your tweets. For instance, if I wanted to get the attention of RU, I would include @rockefelleruniv in my tweet.

Follow: This is the action you take to subscribe to someone’s tweets.

Follower: This refers to the person who subscribes to a particular Twitter user.

Hashtag (#): This is the sign you use if you would like to trend a specific topic (also called a trend) in your tweet. For example, a very popular trend for scientists is #energy. By clicking on a trend, you can see all tweets mentioning it.

Lists: Curated groups created by Twitter users.

Retweet (RT): (noun) Tweet that had been reused by someone else; (verb) The act of reusing someone else’s tweet.

Tweep: Those that are in your social Twitter network (those you follow and those that follow you).

Tweet: (noun) A post on Twitter; (verb) The act of making a post on Twitter.

Tweeter: An account holder on Twitter who posts and reads tweets; also known as *twitterers* or *tweeple*.

I hope to see you in cyber space! You can follow me @themotheregeek. ☺

The Wave that Missed New York or Maybe Carl Paladino was Right About a Few Things

JACOB OPPENHEIM

Across the country, the November 2nd elections left a tide of destruction for incumbent Democrats everywhere. Everywhere that is, except New York. While the Republicans picked up House seats across the country at a fairly even rate (including in New York State), their even better record in state legislatures (approximately 650 seats gained) and governorships did not extend to the Empire State. While the effectiveness of the GOP platform nationwide is debatable, New York's failure to elect more Republicans to its legislature represents a missed opportunity to rid the government of Democrat-perpetuated corruption.

Consider the structure of New York State's government. The executive branch is headed by the governor, who is relatively weak by American standards. The state is normally governed by the troika of the Majority Leader of the State Senate (which has 62 members, elected biannually), and the Speaker of the State Assembly (which has 150 members, also elected biannually). The Senate, with its larger districts and heavier incumbent privilege, has traditionally been home to a Republican majority, a pattern that ended in 2008 with a slim Democratic majority taking office. By contrast, the Assembly has been home to large Democratic majorities, frequently with the power to override a gubernatorial veto (that is, controlling more than 2/3 of the seats).

One source of the corruption plaguing New York can be found in the state's many independent agencies, the largest of which is the MTA, a bureaucratic octopus that costs the state a fortune while delivering dubious benefits. The legislature is the other abundant source of corruption. While the list of transgressions is (nearly) endless, a couple of salient examples should serve. Until 2008, state legislators were allowed to conduct private business from their offices using government supplies. New York has placed no limit on campaign finance contributions, and, until recently, no ban on using campaign funds for private purposes (essentially legalizing bribery). Legislators are also given a sum by the head of their body to disburse in their district—essentially, a slush fund for distributing favors. These funds have been used by the long-serving Speaker, Sheldon Silver, to exert an iron grip on the Assembly. The promise of additional funds lured two highly corrupt liberal Democrats to briefly join the state Republicans in the Senate, miring that body in coup and counter-coup for much of the winter of 2008-09.

Both bodies have brazenly refused to censure members who commit illegal activities. The Senate has not expelled the Democratic leadership over a bribery scheme involving the Aqueduct Racetrack, nor did it expel ex-Senator Hiram Monserrate for diverting hundreds of thousands of dollars intended for hospitals to his own private accounts. The only member expelled recently was the other coup plotter, ex-Senator aptly named Pedro Espada, who cut his girlfriend's face open with a broken bottle during an argument. Rather, New York State's legislators have been happy to indulge in endemic corruption,

wasting the State's massive budget (originating in some of the Nation's highest taxes: property, gas, sales, and income) on favors to their special interest supporters.

These special interests deserve further consideration. The long-time rule by liberal Democrats has led to an overly powerful union lobby. Unionized state employees, from LIRR brakemen to tax auditors, cheat on overtime rules and rack up huge pensions. Hundreds of state employees have pensions of over \$100,000 per year, attained through clever manipulation of pension rules and friendly managers. Public employee unions also block any attempts to reform the system. For example, Buffalo has approximately the same number of employees that it did in 1950, despite the halving of its population and the collapse of its economy. The teachers' union has blocked many of the city's attempts at reform by performing an end run and going directly to Albany. This has resulted in the cap on charter schools, the near-inability to fire even those teachers convicted of a felony, and the retention of incompetent teachers. The power of union lobbies is strong enough that Governor-elect Andrew Cuomo (son of the liberal darling Mario Cuomo) is pushing business leaders to form a strong Albany lobby to counteract the agenda of organized labor. The power of the Senate and Assembly leaders means that special interests can achieve their goals easily by targeting only a handful of top legislators.

Beyond corruption, there is a sense of impunity around Albany. Slush funds and political machines allow legislators who manifestly do not represent the interests of their constituents to stay in power. Senator Bill Perkins (Harlem) refuses to support charter schools or school reform, despite being the beneficiary of a private-school education. Sheldon Silver (LES, Chinatown) led the move to take dedicated tax revenue from the MTA and will not support congestion pricing—despite the fact that he represents one of the most public-transit-dependent districts in the State. Legislators insulate themselves from public opinion by choosing their constituents (and opponents) through redistricting. Every ten years, all states must redraw the boundaries of their congressional and state legislature districts; in New York, boundaries are finagled so as to keep incumbents protected by their machines and to move powerful opponents into neighboring districts. The Republican Party has deftly maintained a bastion upstate by including large prisons in their districts, upping the population by adding people who cannot vote.

Rampant corruption would be easier to stomach if the state ran well. But it doesn't. For instance, graduate student stipends fall into the 7% tax bracket, yet no benefits of state government are seen (MTA subsidies have been declining, and the State is one of the biggest barriers to reforming public education). It is evident that something is wrong with the system. Given New York's alarmingly high taxes, pointless regulations enforced by bloated bureaucracies, lack of a responsible budgeting process, and yawning budget deficit, it is reasonable to wonder why the State works at all. Again, it is telling that Governor-elect Cu-



This Month Natural Selections interviews Jessica Rosenberg, Graduate Fellow, Funabiki Laboratory.

Country of origin: USA, Connecticut.

New York State of Mind

1. How long have you been living in New York? Eight years and counting.

2. Where do you live? Graduate Student Residence.

3. Which is your favorite neighborhood? SoHo during the day, LES or Meatpacking at night, depending on my mood.

4. What do you think is the most overrated thing in the city? And underrated?

Most overrated: Magnolia's cupcakes. Most underrated: Hudson River Park, south of 14th street. Hudson River Park is great because it's quiet and clean and most of all not crowded. No one is in a rush. It's really the most chill place in the city.

5. What do you miss most when you are out of town? The food! Street carts and real bagels.

6. If you could change one thing about NYC, what would that be? No personal cars in the city. Only taxis and buses. Seriously, if you really feel the need to own a car, you don't belong in New York City.

7. Describe a perfect weekend in NYC. Friday night: opera at Lincoln Center. Saturday: hit up a street fair for Thai food for \$1 and earrings for \$5. Window shopping on

Madison Ave, then to Central Park to read and do some yoga. Dinner at home (frozen Indian food from Patel Brothers in Jackson Heights!) then cocktails at the rooftop bar at 230 5th, then out dancing in Meatpacking. Sunday: sleep in late, brunch at Sarahbeth's.

8. What is the most memorable experience you have had in NYC? Election night 2008. We started in a crowded, electric bar downtown. After the results came in and Obama made his speech (the most quiet I had ever heard a bar that crowded), we hit the streets among music and shouting, even more than when the Giants won the Superbowl. We headed up to Times Square. The major party had dissipated except for some hard-core revelers and the people trying to sell them things, but the confetti remained: not yet dirty, still colorful and celebratory. We then walked up to Rockefeller Center. By then it was totally deserted but the glowing towers of numbers counting the votes had been left on, another tribute to the fantastic night. It was the one time in New York you could walk down the street and look people in the eyes, because we were all



thinking about the exact same thing.

9. If you could live anywhere else, where would that be? A small beach town. Any other big city just feels inadequate compared to New York, like an impostor.

10. Do you think of yourself as a New Yorker? Why? Yes. It is the only place I have lived on my own, and I don't think anywhere else will feel like a home. ☺

mo wants to cut taxes and regulation, despite being a liberal Democrat.

So why the Republican Party? Why should it deserve to run New York, despite having a record almost as awful as that of the Democrats? The answer is the New York Uprising reform pledge. NY Uprising, headed by former mayor Ed Koch, is a bipartisan movement dedicated to ending the corruption and double-dealing in Albany through non-partisan redistricting, ethics reform, and responsible budgeting. All the Republican candidates for State Senate, and nearly all of those for State Assembly, signed on to the movement. The Democrats, enjoying uniform control of state government for the first time in decades, signed on at a much lower rate. In addition, Carl Paladino, for all his personality flaws, captured much of the anger and disgust that voters have with State politics. To paraphrase him: why should Andrew Cuomo, son of the governor who bankrupted the state, be the one who fixes it? Paladino represented what New York needs most—a movement to clean house and start afresh. At the very least, it was refreshing to hear someone call Sheldon Silver a “criminal.” If you don't believe me, watch Paladino's final pre-election statement on YouTube—it even melted the hearts of the snarky liberals at *New York Magazine*.

Ultimately, however, the presence of a weak, flawed, and socially regressive candidate at the top of the ballot destroyed

the hope for large Republican gains. While they likely took the State Senate back by a narrow margin, it is unclear whether they cut into the Assembly's veto-proof majority, leaving Sheldon Silver's dictat all-powerful. Civic-minded financier Harry Wilson lost a narrow election for comptroller, largely due to a weak presence at the top of the ticket, leaving the massive state pension funds in the control of corruptly-appointed Thomas DiNapoli. Dan Donovan, the Republican running for Attorney General on a platform to clean up Albany and end corrupt union pension deals, lost a close race to Eric Schneiderman (the only statewide Democrat not running against Albany this year).

Hope must reside in Governor-elect Cuomo, whose detailed reform plans and record as Attorney General bode well for the future. In the end, the voters of New York have only themselves to blame for their state's dismal circumstances. Too enamored with the benefits of machine politics, or overly-loyal to leaders who play to ideological sympathies while hiding their records, voters have refused, once again, to clean house. The next time you hear a New York resident complain about corruption, high taxes, or even the lack of legalized gay marriage, ask that person who he or she voted for. My excuse? I voted in Virginia.

NB: All factual claims come from mainstream media sources, especially *The New York Times*. For references, email jopenhim@rockefeller.edu. This column will appear monthly. ☺

My Neighborhood: Bushwick

MOLLY KOTTEMANN

“East Williamsburg,” said the realtor, hand-waving like at the end of a seminar. “Keep the rats out of Bushwick,” said the trashcans—and me without animal training. We moved in the next month. I still experience a faint jolt of anxiety when people ask me where I live (which name should I use?!), which may be why I’ve heard it portmanteau’d to Bushburg and Willywick, among others. Yet the double-barreled name feels fitting, as the neighborhood itself sometimes seems to exist as two things simultaneously. My block maintains a vibrant Latino community even as we students and freelancers begin to sidle in along the line of the L train. In the open-windowed summer, the sounds of salsa spar with Sleigh Bells while families grill chicken on the stoops and bands play on the roofs.

Bushwick is one of the oldest neighborhoods in Brooklyn, and one with a New York narrative: demolished by fire and looting in the 1970s, plagued by drugs and poverty in the 1980s, it’s more recently been the target of robust restoration efforts. But its increased safety and sense of community doesn’t rob it of an atmosphere you’ll miss on the Upper East Side. Pop up from underground at the Jefferson L stop, U-turn rightwards and you’re faced with a long stretch of graffitied industrial buildings, and baby alpacas peering longlashed out of a surprising, and surprisingly charming, mural. A block or two worth of Saturday amble can lead you past an empanadas joint, an abandoned warehouse, and an organic coffee house complete with twenty-somethings sipping, reading, and donning sunglasses against impending hangovers.

The intermittently empty blocks can give a treasure hunt feel to nights out—you turn a dark corner to find your destination glowing brightly, thankfully, a few steps down. As you might expect from a neighborhood where BA’s far outnumber BS’s, your options often center around art, but don’t expect a sedate Met-inflected experience. Performances range from subversive video mashups to aerial burlesque to bands, and are often held in event spaces that double as creative cooperatives, like 3rd Ward and Surreal Estate. For those who prefer a less DIY-feel to their fêtes, there are also more traditional offerings. The beloved outdoor electronic music party Sunday Best, for example, moved to Bushwick’s Brooklyn Fire Proof when it lost its canal side home in Gowanus, and I’m already anxious for its re-

turn next summer. (Caveat: it’s much safer than it used to be, but I’d still bring a friend or two for after-dark exploration.)

In the late nineteenth century, Bushwick was home to a massive brewery industry—for a time, it was even known as “the beer capital of the northeast.” Today, the breweries are long gone, but you can repair to one of the area bars—I particularly enjoy King’s County and duckduck—for a locale-appropriate Brooklyn Lager, the classic PBR-and-whiskey combo, or even a more rarified nightcap. I’ve recently enjoyed a cocktail made with beet-infused vodka and ginger at the Tandem Bar, a drink that in its complexity and kick could easily go a round against Manhattan mixologists’ creations. And, of course, if the round’s on you, the Bushwick price will go easier on your stipend.

The culinary chops in my neighborhood are still in the teething phase, but you can’t go wrong with some simple but toothsome Latino street food from one of the many groceries and taquerias (check out Arepera Guacuco). West Coast transplants, take heart. And brunch! The longer I’m in Brooklyn, the more I begin to worry that brunch has become my staple meal—apt for a neighborhood of similar chimerism. The walk west towards Williamsburg proper is tempting, but I often opt for the eclectic but unfussy menu at Northeast Kingdom. The jewel in this part of Kings’ crown, though, is undeniably Roberta’s, an artisanal pizzeria hiding behind an unprepossessing façade and topped by a rooftop garden. On a recent visit, my dining partner bemoaned the lack of heirloom tomatoes in his favorite dish, forgetting that the last iteration was served up in summer, when they’re sourced from right upstairs. Try the guanciale and egg pizza—they cure the pork jowl in-house.

My neighborhood is in an exciting state of flux, right now, a point where an RU postdoc can feel reasonably safe walking home after a late night in lab, but can still experience its change and color, range and edge. I can’t promise what it’ll be like a year from now: it’s kind of like science, where you live on the leading edge of what you know, what you can imagine, what you can predict. Older residents sometimes pass by my porch with a cane-assisted swagger, lamenting that it’s not like they remember. So, come visit, if only so you can one day say you were there ‘when,’ when it was this when, this neighborhood, this time. ☺



Death to Stilettos. Photograph by David Schneider

It’s Christmas Time in the City

AILEEN MARSHALL

Like the old song says, the “city sidewalks, busy sidewalks” are “dressed in holiday style.” Besides the hustle and bustle of this busy shopping season, New York has many time-honored holiday activities. Here are just a few to help you feel that holiday cheer.

The gigantic tree at Rockefeller Center is an impressive sight for young and old alike. Every year, a huge evergreen is picked from some remote location and transported to Rockefeller Center, on 5th Avenue between 49th and 50th Streets. It is set up behind the Prometheus sculpture next to the ice skating rink, strung with almost five miles of lights and topped with a Swarovski crystal star. The tree lighting

ceremony is usually the Tuesday after Thanksgiving, with a few celebrities and typically a known figure skater. Even though the ceremony will have passed by this issue’s press time, the tree is still lit daily from 5:30 a.m. to 11:30 p.m., except on Christmas, when the lights are on all day. The area can be very crowded with tourists, so the best way to see the tree is to go skating on the rink. Looking up at the beautiful tree and the tall buildings from the rink is an experience not to be missed. Adult admission ranges from \$5 to \$19, depending on the date and time. Sessions usually last about two hours, starting from 8:30 a.m. to 10:30 p.m. Call (212) 332-7654 for more information.

For generations it has been a New York family tradition to see the Christmas displays in several department store windows. Some displays are animated; some have a scene from a story in each window. Although there are not as many displays as in past years, the stores that still have holiday displays today are Bloomingdale's (Lexington Avenue at 59th Street), Barney's (Madison Avenue at 60th Street), Bergdorf's (Fifth Avenue at 58th Street), Saks Fifth Avenue (5th Avenue at 49th Street), Lord and Taylor's (5th Avenue at 38th Street), and Macy's (34th Street at Broadway). Be aware that there can be long lines on weekends. Macy's also has Santa Land on the 8th floor. Santa is in residence from the end of November until Christmas Eve. Children can sit on his lap, make their requests, and get a photo their parents can embarrass them with in their teenage years. You can call Macy's at (212) 494-4495.

Another well-established holiday event is Balanchine's *The Nutcracker*. This well loved ballet, with Tchaikovsky's score, is performed at the New York State Theater at Lincoln Center. The story is of little Clara and her adored nutcracker that transports her to a dreamland filled with fantastical scenes, including the battle with the giant mice and the dance of the Sugar Plum Fairy. Watch for the Christmas tree growing out of the stage! The New York City Ballet runs from November 26 until January 2 this year. Ticket prices range from \$20 to \$225, depending on seat location and performance time. Go to www.nycballet.com for specifics.

Probably the most popular holiday event is the Radio City Christ-

mas Spectacular. This holiday pageant is most known for the famous Rockettes with their precision legwork and "March of the Toy Soldiers." In recent years the show also started including a 3-D segment and skaters on stage on their own little ice pond. The show is at Radio City Music Hall, on 6th Avenue at 50th Street. Tickets range from \$45 to \$250 for performances through December 30. Go to <http://www.radiocity.com/eventcalendar/home> for additional information.

For some less crowded activities, one can go see the annual Christmas tree and Neapolitan Baroque Crèche at the Metropolitan Museum of Art, on 5th Avenue at 82nd Street. Eighteenth century Neapolitan angels and cherubs decorate this large and beautiful tree. Recorded music adds to the atmosphere. There is a lighting ceremony on Friday and Saturday nights at 7:00 p.m. The tree is located on the first floor of the museum, in the Medieval Sculpture Hall, from November 23 until January 6. There is also a concert series during the same time. More details about the display can be found at www.metmuseum.org.

Another off the beaten path event is the performance of Handel's Messiah at the Cathedral of St. John the Divine, on Amsterdam Ave at 112th Street. The Cathedral Choristers and Singers perform this eighteenth century piece with the very familiar Hallelujah Chorus in one of the oldest churches in the city. This year, the concert is on December 11 at 7:30 p.m. Tickets range from \$30 to \$60. Tickets can be purchased at www.stjohndivine.org.

After all these activities, can't you just hear those "Silver bells... silver bells..."? ☉

Framing Science, this Time for the Screen

LUIS QUEVEDO

Three years ago, the Imagine Science Film Festival (ISFF) was born here, at The Rockefeller University (RU)—admittedly as one of its oddest spin-offs to this day. Why science and films? Well, the basic building blocks were already in place: the Rockefeller Film Series, a bunch of art-inclined scientists, and the ever pervasive TV with its customary representation of science as a realm of anti-social, solipsistic guys. Somehow, the idea of the festival brought these building blocks together—acted as a catalyzer, if you will, for a reaction whose goal was to renew how science, and scientists, are perceived.

The ISFF, led by RU's alumnus Alexis Gambis, Ph.D., screened 38 films this year, each and every one of them selected for its depiction of rigorous scientific concepts within a compelling narrative. If you feel that description wasn't all that clear, don't think of it as a drawback, actually, it's one of the best features this festival has because it attracts filmmakers from very different backgrounds, styles, and nationalities. Among the 38 submissions were short films, feature films, documentaries, mockumentaries, experimental videos... plenty of everything one could ask for was screened.

Let's review the highlights: Isabella Rosellini brought her *Green Porno* series to TriBeCa Cinemas. Produced for the Sundance Channel, and with help from a jaw-dropping team of costume and art designers, she impersonates a variety of animals—including sperm whales, mantises, and squids—while discovering unknown aspects of their sexual lives. John Amiel attended the screening of *Creation* at CUNY's Graduate Center. His Hollywood feature film is based on the biographical book *Annie's Box*, by Randal Keynes—the actual great-grandson of Darwin. In the film, John Amiel explores the more intimate side of Darwin's life and part of the process that ultimately led him to publish his milestone work, *On the Origin of Species*. But of course, these are high profile players—what about the rest? Well, there were many interesting films from new filmmakers: *An Eyeful of Sound* invited the audience to experience what synesthesia feels like, and did it so well that it won the *Nature* Scientific Merit Award this year. The winner of the *Nature* People's Choice Award was Marius Borodine, for his story about a genius' spectacular new invention that can transform any and all objects into drinkable water; it bewilders the public, scientific communities,

and the family of the misunderstood creator, especially after he takes it one step too far. Honorable Mention went to Skhizein, for a story about a guy who, after having been struck by a 150-ton meteorite, has to adapt to living precisely 91 centimeters from himself. If he wants to open a door, sit on a chair, or pick up the phone, he just has to do so from 91 centimeters away. There was live music at The Bell House where The Amygdaloids played "Mind Over Matter" and showed their latest video clip, part of the album *Theory of Mind*. And, because not everything is intended for brainiacs, there was a day tailored for kids at New York Hall of Science where they enjoyed "Meet the Elements", a music video about the highs and lows of the elements of the periodic table. The animated song was from the indie rock band, They Might Be Giants.

If you want to know more, take a look at <http://imaginesciencefilms.com/festival/2010-films/> to see the rest of the films. In this case the jury was not just honorable, but highly remarkable: the fantastic science writer Carl Zimmer, the scientist-turned-filmmaker Randy Olson, and the award-winning writer and director Valerie Weiss. Apart from them, many others have backed the ISFF this year:

Nature magazine, *Science* magazine, The Science and Entertainment Exchange (a must-know initiative bringing together Hollywood and science), Vimeo, *Discover* magazine, the NYAS, Sundance Channel, and others.

The guy behind all this is the aforementioned Alexis Gambis. While a student at RU, he conducted the Film Series some of you must have attended. He developed an increasing interest in films, shot several while doing his doctoral research and, after graduating, applied to the NYU Tisch Film School. He's now in his second year at Tisch, producing his third film, and writing a feature one, *Fly*

Room, in which scientific breakthrough intermingles with human drama. It's a docu-fiction based on the life of Columbia University Nobel Laureate, Calvin Bridges, who harbors a true passion for science and women. The same obsessive nature that brings him scientific recognition and fame becomes a destructive force outside of the confines of the small claustrophobic 26 square foot laboratory known as the Fly Room.

Alexis has followed an unusual path for a scientist but one that can help make a difference. Can you imagine if science ever had a character like Marlon Brando in *The Godfa-*

ther, what an impact such a movie could have in the public perception of scientists?

If you want to find out, come! If you haven't attended this year, do not miss it next time, either at The Bell House, together with the Secret Science Club guys, or at Indiescreen, or maybe at CUNY's Graduate Center, as a member of the audience or the volunteer crew. You'll have a good time and, who knows, maybe you'll find a new hobby or career opportunity that was waiting just around the corner.

For more info, footage and pictures, please visit <http://www.imaginesciencefilms.com/> ☉

In Search of the Mutant Gene

CARLY GELFOND

On a Monday afternoon two months ago, I sat in a cushioned chair before a gray-haired doctor who folded his hands on the desk in front of him. I crossed my legs. On my lap I held a notebook (mostly for show). I also held a stapled packet of papers that declared my "results."

I was here because my genetic background had been dotted with red flags.

Next to me sat another doctor, a young dark-haired woman I had met with previously. Several weeks prior, we had sat together just down the hall, the only occupants at a long conference table. From a distant vantage point, we might have looked like high school girls reading magazines together. But in fact, we were discussing the reasons why it was recommended that I undergo genetic testing for mutations in *BRCA1* and *BRCA2*, two genes currently known to be involved in the development of hereditary breast and ovarian cancer.

A note about me: I was always a deferrer of decisions, the diner who needed one more minute with the menu. I knew that because of my family history, I had an elevated risk of developing the disease. My mother was diagnosed with breast cancer in her early 40s and died shortly thereafter. I was always told I needed to be vigilant. But since I was still young (and isn't it a privilege of the young to live just a little while in ignorance?) that advice had always come in the form of doctors handing me self breast exam pamphlets, and casually recommending that I start going for mammograms earlier rather than later. This was advice easily put off. The subject of genetic testing had even come up in discussions with other family members, but like every other precautionary action, there was never any big hurry.

So had it not been for the little lump I accidentally found while getting dressed one morning, whose detection catapulted me to the front of the line at the internist, and from there to the imaging center followed by the breast specialist followed by the genetic counselor, I probably wouldn't have gotten to any of those places of my own accord. The lump turned out to be nothing to worry about, but rather than tell me congrats, go have myself a celebratory margarita, the breast specialist suggested I meet with someone who would discuss with me the possibility of genetic testing.

When I sat with the genetic counselor that day at the long conference table on my first visit, we discussed my risk factors. There was my mother's early death from breast cancer. There was the fact that I was of Eastern European Jewish descent. For women with this ethnic background, I was told, three specific mutations within the *BRCA1* and *BRCA2* genes were known to occur more frequently. Also, my father

currently had prostate cancer and while no additional relatives were known to have cancer of any type, this didn't mean much because I was an only child and my extended family was rather small.

So, what the genetic test could tell me was whether or not I had inherited mutated genes. The doctor explained to me that *BRCA1* and *BRCA2* are part of a gene class referred to as "tumor suppressors." In a nutshell, that means that these genes aid in helping a cell's DNA remain stable and prevent cell growth from getting out of control. When these genes are mutated, they often lead to the development of hereditary ovarian cancer and hereditary breast cancer. These mutations also increase a person's risk of developing these diseases earlier in life.

If the test came back positive, this would be the equivalent of quantifying to a much more specific degree than before what my "elevated risk" actually was: between the ages of x and y, the likelihood that I would develop breast or ovarian cancer could be calculated into a percentage. At whatever age that percentage became uncomfortably high, preventative surgery—a hysterectomy, oophorectomy, and/or mastectomy—would be something I should consider.

If the test was negative, this would mean that my risk of developing breast or ovarian cancer was probably the same as that of people in the general population. This was not to say, however, that I could be sure I carried no genetic mutations, because the chance still existed that there was an entirely different mutation or gene, not yet known to the medical community, that was responsible for my family history.

Like an oracle, these people had the capability of accessing information about my future in their hands. But to access this information would mean having to cope with the results, whatever they might be.

Looking back on that day at the conference table with the young genetic counselor, I don't think I was ready on an emotional level for what the results had the potential to imply. (Another note about myself: when faced with a decision I must make, I close my eyes and jump.) For instance, I'm not sure I was ready to reconcile the possibility of electing to have my ovaries removed with the imperative that if I wanted to bear my own children, I would have to do that sooner (as in, much sooner) rather than later. I'm not sure I was ready to confront the whole bucketful of decisions I would need to make if I were the carrier of mutant genes.

Luckily, I didn't have to be.

In his office now, several weeks later, the gray-haired doctor looked at me kindly, and asked if I understood the results.

No mutation detected. I understood that this was a gift. ☉

Rockefeller Pool Tournament

EUGENE MARTIN

Sudhir Kashyap and Patrick Griffin are conferring over the Faculty Club pool table. They finish agreeing on the rules with Pat saying, "If you miss the 8 on the final shot, no loss." They shake on it, and the championship match of the 12th annual Rockefeller Pool Tournament is set to begin.

Sudhir, a postdoctoral associate, starts the best of seven series. After getting one ball in on the break, he immediately sinks another. Pat, the manager of the Faculty Club, quickly evens the game by sinking two solid balls. Pat then proceeds to dominate as a backdrop of murmuring is heard throughout the pool area with the audience discussing possible shot options. Finally, Pat makes a beautiful bank shot and then sinks the 8 ball, pulling ahead in the series, 1-0. "Sudhir's in trouble," someone remarks.

Game two starts with Pat breaking. Despite some beautiful English on the cue ball, nothing drops. Coming back from the prior loss, Sudhir makes two easy shots and then a long shot where the ball slows as it approaches the pocket, pauses at the pocket's edge, and falls. The audience lets out a simultaneous "Ohhh!" Next, seemingly in a terrible position, Sudhir makes a difficult bank shot ("Aaah!") into the corner pocket, pulling ahead by four balls. In their next four attempts, neither player is able to sink more than one ball per turn until, late in the game, Pat makes three consecutive shots to take the lead. Sudhir then sinks two balls, shoots for the 8, and misses. Pat sinks his remaining ball, takes an easy shot on the 8, and pulls ahead 2-0 in the series. A gentleman with an English accent remarks, "that's a tough one; could've gone either way."

The crowd grows to 14 people and Sudhir starts game three. Someone remarks, "It's Tom Cruise and Paul Newman here. Sudhir's Tom Cruise; look at the hair, the glasses on his head..."

"Hey, those are lab safety goggles."

As someone confirms, "Those are safety goggles," another person shouts "Oh my God." Turning to the table, Pat just made a long shot from one corner of the table to the far corner. Sudhir is starting to get visibly frustrated as Pat is making hard shots look simple. But then, Sudhir starts to pull back. He makes two shots that have almost impossible angles, and does it confidently. Pat returns to the table, makes his next shot, but can't knock in the 8 ball in two consecutive turns, with the 8 almost going into the wrong pocket on one of his shots. Sudhir then makes in two consecutive balls, but is left with a very difficult bank shot. "You're screwed," someone tells him. Sudhir makes the shot, easily puts in the 8 ball in afterwards, and brings the competition to 2-1.

Game four starts with Pat breaking and nothing going in. Sudhir then sinks four consecutive balls, gaining a heavy advantage. One particular corner pocket of the table is foiling Pat, as his shots go wide in three of five attempts. Although Pat eventually sinks two balls, Sudhir wins the game, evening the championship series, 2-2.

The crowd has now grown to two dozen people. Expressionless, Pat takes aim at the corner that had proven so difficult in the last game and sinks the shot. Leaving the cue ball relatively blocked, he decides to go for a four-ball combination shot, knocks in one of Sudhir's balls by accident. Sudhir makes in two consecutive shots and starts to speed up his play. Pat sternly walks back to the table and gets in two difficult shots, the latter of which slowly approaches the side pocket then plunks in. He misses his next shot, but is ahead three balls to one. Sudhir then sneaks one of his balls past a ball

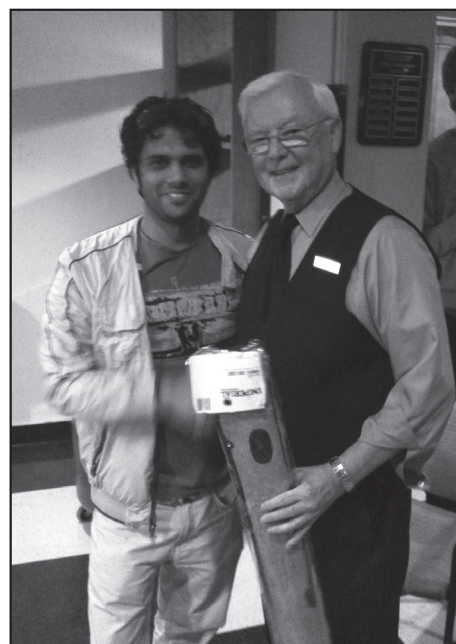
blocking the corner; Pat says, "Nice shot." Sudhir then quickly goes for a corner to corner shot and just misses. Pat takes one easy shot, leaving himself set up for an easy shot on the 8 ball, and then retakes his lead in the championship series, 3-2.

There's a palatable energy in the room as Pat breaks. Despite the balls being clustered together, Sudhir sinks five consecutive balls, taking about 10

seconds for each shot. Missing a shot on a side pocket, he shakes his head and takes a drink. Again expressionless, Pat walks to the table and sinks three balls, but then goes a little wide on the corner shot. Sudhir makes one amazing shot, one easy shot, and then ties the match up again, 3-3. Pat smiles and shakes Sudhir's hand.

It's down to the final game and the crowd is getting rowdy. Sudhir breaks and the balls are evenly spread out but, yet again, none of the balls sink. Pat makes a shot in the side pocket, makes an easy corner shot, adjusts his glasses, takes his time, but goes wide on the corner. Sudhir goes for a corner, but comes up a little short, blocking the corner pocket instead. Not playing games, Pat drives his ball into the blocking ball, sinking both his ball and Sudhir's, though giving up his turn. Both players play a defensive game, blocking pockets or taking hard shots, but the game slowly progresses with Sudhir being ahead with only two balls left on the table to Pat's three. Sudhir, keeping a fast pace, shoots at one of his remaining balls just a little too softly and starts to look agitated. Pat misses his next shot, but has his remaining balls blocking Sudhir. Sudhir chooses to make a difficult bank and someone shouts, "Oh my God!" as the ball goes in. Sudhir misses his next shot but Pat, missing his shot, accidentally knocks Sudhir's ball in. This game is almost won! Sudhir goes wide by about 3 inches when trying to sink the 8 ball in the corner. Pat, with two balls on the table misses his shot towards another corner pocket. Everyone is standing. The 8 ball is 3 inches from the corner pocket. And Sudhir misses! Pat misses his shot. Sudhir, same situation as before, misses the 8 ball again, this time sending it away from the corner pocket. "Now it's all open again," proclaims someone in the crowd. As if on cue, Pat sinks in his two remaining balls and now has only the 8 ball to sink. He misses, putting the 8 ball about 5 inches from the corner that foiled Sudhir previously. Not pausing, Sudhir goes for the shot... and it's in! Sudhir wins! Hugs from the crowd!

Pat goes into the back room and returns with two prizes. Sudhir takes his prize, peels off the wrapping paper, and reveals a new pool cue. Pat peels off the wrapping paper from the second prize, reveals a box of tissues, and promptly mimes the wiping away of a tear. ☺



Photograph by Yoav Litvin

A Bumpy Road

JEFF SMITH



The Bumpy Road to Arbegona. Photograph by the author

We left Awassa at 8:00 a.m. and headed south into the hills. For two-and-a-half hours we bumped and caromed over some of the muddiest roads I've ever seen. Beneath the Land Rover the road was harsh, in some places nearly washed away by rain. Rocks and potholes the size of cattle made passage difficult. Barry, our driver, shifted into four-wheel drive twice to get us through particularly rough patches. Long rifts gashed the road. The mud was so thick the ruts from previous vehicles passing through were deep enough for a child to stand in and not be seen.

Outside the windows this verdant land was lush with grass and hedges and corn and false banana plants (enset, so-called because the banana-like plants produce no fruit). We continued high into the hills of southern Ethiopia, our ears popping around every curve in the road. Clouds obscured the more spectacular views but seemed to vanish as we traveled higher and higher. People of all ages and sexes walked along the road. Men huddled in groups, talking. Women carried stacks of wood on their heads. Children played on dirt piles or ran along the road. Boys yelled at small herds of goats. Men worked together to fix the roof of a bamboo hut.

Our journey to Ethiopia started more than six years ago, when we first began to plan our family. Along the way we stopped in surgical rooms and fertility clinics, therapy sessions and visits with social workers. Two years ago we submitted the paperwork and on July third, two days before our seventh wedding anniversary, we arrived in Addis Ababa and met our daughter, Miralena. The next morning we crowded into a car with a driver and two social workers, and continued this journey south to meet our daughter's birth family.

The closer we got, the more nervous I became. My hands were sweaty, my heart raced. We knew very little about the mother of our child, only that she was young and that her husband had died. She knew even less about us. What would she think of us? Would she approve? Would she wail in tears and protest that she wanted her child back? Would she talk to us, tell us something about herself that we could one day tell our daughter, or would she instead sit quietly and not respond? Would the rest of her family, her father

and her mother and her siblings, be kind to us, or would they see us as devils taking their little girl away?

All these thoughts raced through my head as we caromed along this windy, rocky road. The minutes dragged. My heart jumped at every bend in the road. Finally Barry turned into a field, swerving to avoid three cows who eyed us as they chewed their cud, and stopped at a bamboo fence. We piled out of the car and followed Choo-choo, our translator, into a small yard. A man in a ragged gray shirt and jeans walked right up to my wife and put his arms around her and pressed his ear to her shoulder. He smiled and then he did the same to me, put his arms around me and embraced me. He was a little taller than my wife but much shorter than my six-foot-three frame. After the hug, he smiled broadly at both of us.

Choo-choo said, "This is Miralena's grandfather." My eyes watered. For all the worry I had, for all my fears of how this family would feel about us, this man who had accompanied his oldest child while she gave up her fifteen-day-old child for adoption, this man without a word put his arms around us and hugged us—welcomed us into his yard and into his home and into his life.

Grandpa G led us through the field, up a muddy embankment and back out onto the road where we walked about 200 yards before turning through some trees. We climbed a narrow, muddy, rock-strewn path. Neatly arrayed trees created a well-kept, fenced-in yard. Grandpa G brought a long bench from one of the two straw-covered huts. With a fistful of straw he brushed off the bench and insisted we sit. We had spent the better part of the last two days on our butts but we couldn't refuse his hospitality. Grandpa G ducked into his hut and reemerged a few minutes later in a clean shirt and a blue jean jacket. He wanted to dress up for our visit. He brought another bench and placed it across from us, sat stock still with his hands on his knees and waited with us.

A woman emerged from behind the trees wearing a pink sweatshirt and a pink shirt beneath. Her hair was in braids, her smile broad, her face a mirror of the little girl waiting for us in Addis Ababa. Mother G gave my wife and I each a hug. She shyly looked to the ground and covered her mouth, then took a seat in the chair her father had brought out for her. She avoided eye contact, covered her mouth when she smiled. Her chair was off to one side so we had to turn our heads to look at her. Her son, our daughter's brother, sat in her lap. He was at least three but looked like he was barely more than a year old.

Mother G was quite open with us about her marriage and the birth of the child we would raise. Once we got through the introductions, the rest seemed easy. Though we were speaking through an interpreter, and both their voices were quiet, it felt quite natural and normal. We asked her what she hoped for her daughter's future. "To be a doctor," she said. "I wish that, too," my wife said with a smile and we all laughed. She asked when we would return to visit and we said we didn't know. It was part of our adoption contract to

send yearly updates and we reiterated that promise to them. As our interview was ending, Grandpa G spoke quietly in Sidama. Birds chirped in the trees. In the distance we could hear a religious ceremony being spoken over a loud speaker. The translator turned to us. "He says that he owns these huts and this land, and the other hut and all that land, and all the land in between, and that when you return you can consider this place your home." We were silent for a moment and then, quietly, I said, "Thank you." I could think of nothing else to say.

Grandpa G invited us inside the hut where he and his wife and his children slept. (Mother G lived with her husband's family.) He offered us a seat on a straw cot in the small, circular one-roomed hut. He poured water from a pink plastic teapot over our hands and then presented a small ceramic pot full of a quinoa-like paste. With our fingers we formed small balls and popped them in our mouths. The texture was like finely chopped, overcooked rice. It tasted sour, like spoilt milk, but with a strange sweetness. This hash was a staple of their diet and one of the ways Grandpa G earned a living. The paste was made by grinding the root of the false banana plant and then burying the grounds for thirty days to ferment it. Afterwards they mix it with spices and homemade butter and bake it over a

fire. The hash left a bitter film on my tongue and to wash it down Grandpa G handed me a glass of fresh goat's milk. I thought of all the diseases that were teeming in that glass, all the little bacteria that could grow inside me. I thought of the questionnaire on blood donation forms—have you been to Africa in the last six months? I thought of my daughter smiling up at me for the first time. I put the glass to my lips and drank and enjoyed every gulp.

We walked back to the field, along the dirt road, and there gave Mother G and Grandpa G one last hug before we piled back into the car. They stood and waved as we drove away, some of the village children running after the car. It was sad to watch them disappear because I worried that I would never see them again. I want our little girl to come back here, want her to one day meet this woman who gave up so much for her to have a better life. I want her to know all about where she came from and the hut she was born in and the false banana leaf she was born on. I want her to know all this. As Barry drove us away I made myself a promise, one that I repeated to my wife later: we shall bring Miralena back here. We'll make sure she knows how wonderful her birth family is, and what a lucky girl she is to have so many people so far away praying for her future. ☉

Modern Dance in the Most Polluted Place on Earth: *Tankograd*

DAVID MURPHY

Thanks to my girlfriend's last minute Googling to entertain our Friday evening, we had the great luck to discover the Margaret Mead Film Festival happening at the American Museum of Natural History. It was 6:45 p.m. at Rockefeller and we were hoping to catch a show about robots at 7:00 p.m. so we hurried downstairs and took a cab across town to get there just in time. Unfortunately we were a day off on the robots show but we decided instead to watch *Tankograd*, a film about a dance company set in "the most polluted area on Earth."

Tankograd, directed by Boris Bertram, is a documentary about an exceptional dance company that has managed to thrive in the city of Chelyabinsk in Southwestern Siberia, formerly home to the largest Soviet facility for nuclear physics. The city was next to the site of several industrial accidents which introduced massive doses of fissile material into the environment. According to several non-governmental organizations interviewed in the film, the facilities also dumped millions of gallons of untreated waste into the rivers for decades. Overall, this has led to Chelyabinsk being over twenty times more polluted with radioactive contamination than the Chernobyl site.

When asked to talk about the pollution, locals don't have much to say. One character talks about areas where you are

not allowed to eat wild game or swim in the water, although he is not sure why. Another character says it is rude to talk about the accidents, and people try to keep it out of their minds. One doctor explains that birth defects have only become widespread in the youngest generation and tend to affect the immune system. Digestive tract tumors are also increasingly widespread in adults due to progressive biomagnification of contaminants in the food chain.

Contrasted to this grim setting is the extraordinary quality of the dancers themselves, who manage to get along with life and even thrive despite the pollution that they consume every day. The dancers practice throughout the film, climaxing in a beautiful modern dance at the end. As I watched them, the dancers defied my biases associated with "irradiated" people. They are healthy and extremely precise in their movements, energetic and original. Bertram shows that the patterns of life persist in the most extreme circumstances.

Tankograd is an inspiring and surprising movie. However, for such an interesting topic, the director leaves the audience with many questions. It doesn't do a particularly good job talking about dance or addressing the environmental situation. There are tidbits, such as the NGO interviews, which address the magnitude of the radioactive contamination, but only in the grossest

terms. We never learn what kind of waste was left behind, or how it moves through the food chain, or what geographic factors have caused it to persist or spread in the Chelyabinsk region. We learn that after-effects seem to have hit the third generation the hardest, although we never learn why—is it due to accumulated genetic mutations, progressive spread of the contamination, or something else? Why is the immune system compromised more than other systems in the body?

We learn of the importance of dancing for the characters in their own words, but we don't learn a great deal about the dance traditions they come from, or how the culture of dance has changed over the decades in the former USSR and this region in particular. The seemingly climactic moment of the film is when we get to see the pivotal performance that we have been preparing for throughout the film. However, the director cuts the bulk of this and only shows a few minutes of dancing. On top of that it is layered over by the filmmaker's own soundtrack, so the audience is removed from the performance.

The film wastes a lot of screen time showing dancers in their daily routines, unedited: getting out of bed, making breakfast, talking about their plans for the day, sitting together with long pauses in dialogue, and sounds of automobiles in

the background. Although these aspects of the characters are certainly important, Bertram simply leaves the camera rolling, filling the screen with dead space in many of these segments. As Stanley Kubrick pointed out, the main artistic tool that separates cinema from any other art is editing, and this film would have been much more meaningful if the director had more thoroughly edited out all the dead space he decided to leave in. By contrast, if he had kept the camera rolling for the dance finale and kept the original soundtrack in place, he may have given the film a much more satisfying emotional climax.

Equally perturbing was the overuse of slow-motion sequences of the characters set to dreamy-depressive Scandinavian electro-acoustic style music. Although the dramatic effect of letting the audience fall into a trance to the graceful bodies of the dancers was achieved once or twice, it be-

came a recurring theme throughout the 58 minutes of film, which grew very tiresome.

This feeling of disappointment was only heightened by the Q&A session with director Boris Bertram which immediately followed. To questions regarding the history of dance, or even the styles employed, the director drew a blank. He also shirked away from a question about why he deliberately cut off so much of the final dance sequence. He did not know anything about what had been done to redress grievances of the victims by the current Russian government, or what the contemporary dialogue was on the issue of contamination. He knew insultingly little about any of the most basic questions concerning the environmental situation, except that it was bad. He even tried to get the host of the event to cut the Q&A session early twice!

Although *Tankograd* gives you an interesting look at a severe environmental disas-

ter obviously overlooked for all these years, it feels somewhat exploitative and overly emotional, with less information than you hope to get out of a documentary. This notion is only reinforced by meeting the director himself, who seems to have done very little of the most basic background research you would have hoped for in a film about such interesting topics, and had a regrettably unpleasant attitude towards most of the audience members who questioned him with even the slightest critical tone.

Criticisms aside, I still credit Boris Bertram for exposing us to a place I formerly knew nothing about, and reinvigorating people's awareness of the extreme cold war environmental negligence that still affects millions of people around the world. His film shows that exceptional individuals can come from extreme hardship, and he has helped broadcast the talents of a great group of dancers. ☺

Life on a Roll



The Marketplace by Andrej Ondracka

