



Natural Selections

A NEWSLETTER OF THE ROCKEFELLER UNIVERSITY COMMUNITY

STIMULATING SCIENCE

ZACH GOTTLIEB (WITH CONTRIBUTIONS FROM MAURA GILMARTIN)

In his inaugural address to the nation, President Barack Obama pledged to “restore science to its rightful place” by signing a \$787 billion stimulus package, which includes \$21 billion for science research. Obama followed through on that pledge. For biomedical research in particular, the highlight of the stimulus package, also known as the American Recovery and Reinvestment Act (ARRA), is the estimated \$10.4 billion being given to the National Institutes of Health (NIH).

Given the conditions of the government, stipulating that funds be used to help stimulate the economy, the NIH will be hard-pressed to award grants to only those projects that are most likely to improve the quality of life of Americans and create more jobs while retaining existing ones. In a recent statement to the public, NIH Acting Director Raynard Kington acknowledged this challenge and assured us that the people of the NIH “have been working around the clock to prepare for this possibility, to make the most effective, transparent, and immediate use of these extraordinary resources.”

Get It While It's Hot!

With the sudden influx of money to spend, the science community has seen a recent flurry of activity as scientists and researchers scramble to get their piece of the stimulus pie. The NIH has stated that this stimulus is a one-time opportunity, and that the awarded money will not carry-over beyond the next two years. As such, scientists are advised to act immediately, and are asked to only apply if they plan to spend the money within the two-year time frame.

An estimated \$8.2 billion of the \$10.4 billion NIH stimulus will specifically go towards science priorities, and there are three main ways in which the funding will be distributed. The first of these is providing active NIH grants with supplemental funding to accelerate or expand already-established research efforts. The money will go towards new instruments and equipment or will be used to create new training positions, but it will not be used to restore cuts in grant funding from previous years.

A large portion of the money will also be distributed to the Research Project Grant Program (R01), applications which have already been reviewed and applications from fiscal years 2008 and 2009 that passed peer review on their high scientific merit, but were not awarded due to limited funds. Of course, these applications will be reviewed again—and likely with more scrutiny—before they are awarded money. It is important to note that if these grants are awarded, investigators will be forced to revise the proposals to fit within the two year timeframe of the ARRA guidelines.

While it may seem that there may not be much left over for new applications, investigators need not fret! The NIH has set aside approximately \$200 million for each of two new grant programs—Challenge Grants and Grand Opportunity (Go) Grants. The two

programs have similar administrative requirements, but differ in their specific goals. The Challenge program aims to support those research areas “that focus on specific knowledge gaps, scientific opportunities, new technologies, data generation, or research methods that would benefit from an influx of funds to quickly advance the area in significant ways.” The purpose of the Go Grants is to “support high impact ideas that lend themselves to short-term funding, and may lay the foundation for new fields of investigation.”

Although the NIH has put the focus on funding new research projects, “New Investigators” should be forewarned—if you are awarded ARRA funding for a Challenge or Go grant, you will lose your status as New Investigator. So, although your grant may receive special consideration for being a new project, you will only receive two years of funding (as opposed to the five years for R01 applications) and will not be allowed any resubmissions. As such, it may be best to wait and just apply for R01 grants.

Regardless of the type of grant one applies for, many of the regulations apply, and it is important to keep these in mind when applying for grants. The money will not be delivered in one lump sum, but rather over a two-year period. As such, the funds must be used entirely within that two-year span, and there will be no opportunity to renew ARRA grants. Perhaps the most important thing to acknowledge is the major purpose of these funds—to stimulate the economy and to create and retain jobs. In a public message regarding ARRA funds, the NIH stated, “To demonstrate accountability to the American people, institutions that are awarded ARRA funds will be required to submit special progress reports indicating how many jobs were created as a result of the funding.”

For more information on applying for ARRA funding, contact your Program Official or visit <http://grants.nih.gov/recovery/>.

Responding to the Stimulus

The announcement of the \$10.4 billion stimulus for the NIH received mostly positive feedback from the nation's citizens, not including disturbed talk-show hosts named Rush. For anyone involved in the science community, there is plenty of reason for excitement (seriously, who wouldn't be psyched about \$10.4 billion?). A few months ago we were asking ourselves whether Obama would stay true to his word and help make science and technology central to the nation's economy. One presidential victory and \$21 billion later, the tables have turned—it is now our turn as scientists and research administrators to hold up our end of the deal and deliver to a nation in desperate need of an economic boost.

Is science the answer to our economic woes? It is far too soon to tell at this point in time, and given the nature of science research, even the two-year time frame for the ARRA funding may be too short to properly judge Obama's decision to invest so strongly in science. However, it is difficult to argue against science and tech-

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Cartoon by Rossana Henriques

Natural Selections
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nology as critical factors in the recovery of our nation's economy. By investing in biomedical and technological research, we enable these projects to grow and expand. This creates new job opportunities, as there will be more labs to fill with scientists and more facilities that require maintenance workers. The demand for equipment will also increase, which will create more jobs at the companies that manufacture the instruments used at research universities and hospitals.

Finally, you cannot underestimate the importance of science and technology in

maintaining the upkeep of our society and the individuals that make it work. As the world becomes overpopulated, fuel and energy demands are higher than ever, and the only way to meet those demands is to develop more efficient uses of the energy resources we have. In addition, we need to invest in improved medicine and health-care to ensure that our citizens are able to remain active in our society and economy.

Without these basic requirements, we are destined to continue a downward spiral into financial ruin; with them, we will grow, prosper, restore our economy, and re-

claim our spot in the world as a powerhouse in science research and technology. ☺

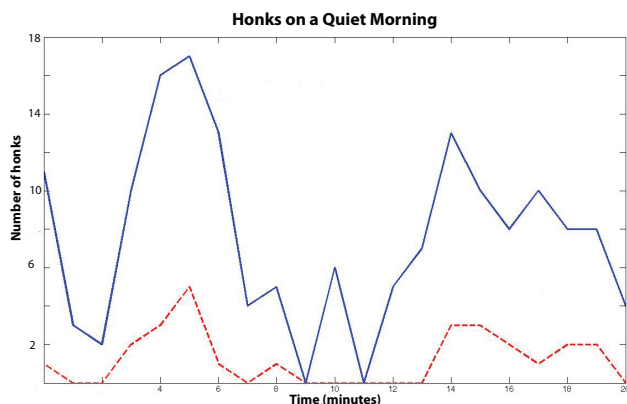


Campus Talk

ADRIA LEBOEUF AND MANOLO CASTELLANO-MUÑOZ

Everyone has seen those signs posted across the city and even in our neighborhood: "DON'T HONK—\$350 PENALTY." But anyone who lives over the FDR can tell you that plenty of honking occurs in spite of the signs.

One of our scientifically-minded campus talk correspondents went so far as to collect his own data, documenting the absurdity of the horn-honking that occurs below the Faculty/Scholar's apartment buildings. On one quiet morning in April, he decided to count the number of horns (total honks and particularly annoying honks) over a twenty minute time span. Total honks are represented by the black line and particularly annoying honks are represented by the dashed line.



In spite of this overabundant honking, I have encountered no one who has actually seen a citation being given for honking. Truly, citations given for honking are quite rare. "The police say they issued 580 tickets in 2006 for 'unnecessary use of horn.'" That's only about one

and a half citations per day. In the 17th precinct, which extends from 30th to 59th Streets and from Lexington Avenue to the East River, just 33 tickets—roughly one every 10 days—were issued for horn violations in 2006.

Further, this honking and lack of enforcement has been going on for quite a while now. Read a letter from the *New York Times* "Letter to the Editor" section from our very own George Cross, who wrote about this in 1989, a time at which the penalty was only \$125.

Living in New York City, it is easy to understand the problem of noise pollution. Horn-honking in heavy traffic can often hit the hazardous zone of 80 or more decibels, but without prolonged exposure, the effect is largely psychological, and quite infuriating when one is trying to sleep.

The question is what can be done about this? One recommendation is to organize within your building or block to have multiple people call 311 whenever the honking gets excessive. After a while and a lot of calls have been made, enforcement levels will hopefully go up, or at least that is what has occurred in the past. "The squeaky wheel gets the grease." Alternatively, one could attempt to fully sound-proof one's apartment, buy very fancy earplugs, or more simply, just get used to it. ☺

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When a Chirp is More Than Just a Chirp

MAURA GILMARTIN AND WAN-CHUN LIU (WITH CONTRIBUTIONS FROM REVATHY U. CHOTTEKALAPANDA)

Springtime has arrived in New York City. Boutique windows are displaying the latest in flowery fashion. Open-air patio dining is now available at restaurants. On the odd patch of earth found in the cityscape, tulips are trumpeting their way out of the ground. And on the rare quiet city block, the unmistakable chirp of a bird can be heard in the early morning hours.

For a large part of the populace, the chirp of a bird might not so much as warrant recognition. For others, the chirp would be not just recognized, but welcomed with warmth and a smile. Then, there is another group of people, for whom this chirp is more than just a chirp. The bird is more than just a bird. For this group, the bird and the chirp are defined with greater sophistication. For these avian aficionados, more often than not, the specific bird name, call, and migratory pattern can fly to mind with just the sound of a tweet.

One might expect that New York City residents would not be able to enjoy the pleasure of bird-watching. A visit to the city's most-famed green space during this prime-time season can quickly change this perspective.

Central Park is great for bird watching, not just because of its obvious natural environs but also because of its location on the island of Manhattan. The centrality of the park makes it, for birds, an oasis surrounded by a desert of concrete. The diversity and large areas of greenery provide migratory birds with a suitable resting place and more than sufficient food and water. One can thus encounter a higher density of migratory birds here than many other nearby suburban or rural areas. More than 270 species have been identified in Central Park, with 32 of those making the park their breeding ground of choice. According to a recent *New York Times* piece, Glenn Philips, executive director of New York City Audubon, is quoted as saying: "During spring migration, one can see as many as 80 species on a good day."¹

The best time to go bird watching is within the first two weeks of May. In spring, migratory birds travel north to meet their mates. The New York region happens to fall along some of the most popular routes. Every year, hundreds



A Belted Kingfisher

of species stop by Central Park to refuel before reaching their destination (the Adirondacks, New England or Canada). This provides a great opportunity for birders to view a multitude of species during their brief layover in New York. While some, such as American robins and bluebirds, return early in February, most move northward around April-May, when their food source (flowers, pollen, new leaves, and insects) is plentiful and mating territory is favorable.

The two cardinal migrating seasons are as different as pigeons and tufted titmice. Spring migration coincides with mating season, which makes for an exciting time for bird watchers. In preparation for courting, many migratory birds have already molted to their most gorgeous plumage and have perfected their alluring song. Readied upon arrival to their breeding grounds, they can immediately attract females and defend territory. An added benefit to this dual-goal migration is that one can see a high and varied concentration of birds within just a few weeks. In fall, breeding season has ended. Many birds have molted to their duller plumage for the winter, and energy is no longer squandered on singing songs, but limited to basic vocal calls. Additionally, many fall migrants have a different return schedule, so the numbers in flight at any one time is not as intense as during

the warmer months.

For those interested in our fine feathered friends, recommended locations within Central Park are: the Cherry Hill and Ramble (mid-Park from 74th to 79th Streets), the North Woods (mid-Park from 102nd to 106th Streets), and the Great Hill (West 104th Street off Central Park West). In these locations, there are small streams where many birds quench their thirst and indulge in baths, within a short viewing distance from intrigued surveyors.

The best time for observation is in the early morning hours between six and nine. This is when birds are most active as they come out to forage. Plus, Central Park is less crowded with distracting humans during these pre-commuting-to-work hours.

Some birds for which to be on the lookout include warblers and thrushes. Most warblers and thrushes do not mate here, but many stop over for a couple of days before heading north. A few favorite warblers like the Blackburnian warbler (for those lucky enough to view it, it can be quite a thrill!), the northern parula, ovenbirds, and yellow warblers can be spied. The melodious, flute-like song of hermit thrushes or the rich, metallic song of wood thrushes can be heard in the Ramble or the North Woods in May. Some might even hear the local song sparrow's vocal signals inspiring the spring.



Tufted Titmice

Binoculars and a field guide are essential for bird watching. Central Park offers free kits which include: binoculars, guidebook, map, and sketching materials.² For those who wish to make this activity a habit, the website at Cornell Laboratory of Ornithology³ and the New York City Audubon⁴ provide excellent reviews of binoculars, accounting for both budget and personal needs. The Sibley or Peterson Field Guide (Eastern regions) and the National Geographic guide are recommended for their handy illustrations.

It is a good idea to study bird songs on CDs to learn the identifiable traits of the different songs of varying species. Learn-

ing the song enables one to identify birds when the obstacle of tree branches and/or the bird's frequent flitting, obscures one's view. This can make one more alert to a particular song when outside and forced to distinguish the bird sounds amongst other intrusive noises (e.g. other birds, people, traffic). Even experienced birders use birdsong CDs to attune their ears. (Peterson or Stokes birdsong field guides are recommended.)

The beginner might want to join birding walks hosted by the New York City Audubon and/or Central Park.⁵ Bird walks led by the New York City Audubon are highly recommended. Check out The American Museum of Natural History (AMNH) and the New York City Audubon for gallery talks. The AMNH just recently hosted a symposium entitled, "Conserving Birds in Human-Dominated Landscapes."⁶

Prepared with these tips, any avian novice can be a fledgling birder in no time! When the chirp is no longer a chirp, but more like a thweet or a tootle or a peep, then you know you've reached new heights of fowl sophistication. ☺

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What's going on at the FDA?

AILEEN MARSHALL

On March 14, President Barack Obama nominated Margaret Hamburg, former NYC health commissioner, for commissioner of the FDA. He also nominated Joshua Sharfstein, Baltimore's health commissioner, to principal deputy FDA commissioner, and named him as the agency's acting chief until Hamburg is confirmed. He is replacing Frank Torti, the acting commissioner who stepped in after former commissioner Andrew von Eschenbach resigned.

In light of recent salmonella outbreaks, some politicians have proposed a bill to separate the FDA into two different agencies, one for food and one for drugs. The food group would purportedly have better control over the nation's food safety. Sharfstein would supposedly run that agency. Sharfstein is known for his drive in persuading the FDA and the pharmaceutical industry that some cold medications should not be approved for children. He also worked to bring tobacco under FDA control.

Margaret Hamburg has an undergraduate degree and a medical degree from Harvard University. She did her residency in internal medicine at Cornell Medical Center, and conducted research here at the Rockefeller University from 1985 to 1986. From 1986 to 1990, Hamburg was at the National Institutes of Health, doing neuropharmacology and AIDS research. She was New York City's youngest health commissioner, from 1991 to 1997. She developed a tuberculosis control

program that reduced the city's infection rate by 46%. She was in support of a divisive needle exchange program that helped reduce the spread of AIDS in the city. During her tenure here she opposed a bill which required AIDS counselors to emphasize abstinence. She said that science, and not "wishful thinking," should drive AIDS education. During this time she also held academic appointments at Columbia University and Cornell University Medical College.

After her tenure as New York City's health czar, she was then President Clinton's assistant secretary at the Department of Health and Human Services.

Since 2001 she has been vice president for biological programs at the Nuclear Threat Initiative. The foundation, started by Ted Turner, is dedicated to diminishing the public threat from nuclear, chemical and biological weapons.

In 2005, Dr. Hamburg was elected to the Rockefeller Board of Trustees. Her father, David Hamburg, M.D., is a trustee emeritus. She is a fellow at the American Association for the Advancement of Science.

Dr. Hamburg is not expected to face much opposition to her appointment. Her appointment has been supported by various organizations, such as the US Pharmacopeia, The American Association for Cancer Research, the Biotechnology Industry Organization, and The Generic Pharmaceutical Association. ☺



This month, Natural Selections features *Jia Min Loo, Graduate Fellow, Laboratory of Systems Cancer Biology (Tavazoie Lab).*
Country of Origin: Singapore

New York State of Mind

1. How long have you been living in New York? About eight months.

2. Where do you live? Faculty House, right next to the university.

3. Which is your favorite neighborhood? East Village. I love the selection of Japanese restaurants there. There's very good okonomiyaki from a "hole in the wall" stall and a lovely Japanese bakery there. The bohemian feel of the area is a nice change from the hustle and bustle of our daily lives.

4. What do you think is the most over-rated thing in the city? And under-rated? The New Year countdown at Times Square. It's such a huge crowd there and if you don't arrive early, you end up standing for hours without actually seeing anything. The subway is underrated I guess. It's not perfect, but it can certainly get you around the city without much fuss.

5. What do you miss most when you are out of town? The convenience of having good restaurants, and access to

virtually any services within walking distance.

6. If you could change one thing about NYC, what would that be? The traffic. The number of cars on the roads during rush hour, coupled with some aggressive drivers prone to honking, can really get on your nerves.

7. Describe a perfect weekend in NYC. Sleeping in, having a lovely brunch at Le Pain Quotidien followed by a slow leisurely walk in Central Park. Later in the day I'll prepare a sumptuous meal with my girlfriend and enjoy it over a movie (or two).

8. What is the most memorable experience you have had in the NYC? Watching Phantom of the Opera on Broadway. It's amazing how they can do so much within the confines of the stage.

9. If you could live anywhere else, where would that be? Melbourne, Australia. The city has a very cosmopolitan feel. Within driving distance of the city, there's all the beautiful sights na-



ture has to offer as well.

10. Do you think of yourself as a New Yorker? Why? No. I haven't lived here long enough I guess. However, I'm loving it. @



Cartoon by Adria LeBoeuf

Greg decided to make the most of the recession, the summer and the subway

Spring for City folks: It's Time to Branch Out

CARLY GELFOND

John is thirty feet in front of me and I can't seem to keep up. The black earth is damp and spongy and I move ahead slowly, taking pleasure in the buoyancy I feel with each step. Moss carpets the ground in lumpy patches, like English country hills seen from far above. The smell of wet leaves is everywhere.

The trees are the real draw here. Unlike the mosses and flowers, which shrink away and reappear again when the days lengthen, the trees are a fixed presence year-round. In spring, battered but hardy, they regain their foliage, triumphant.

A history teacher I once had at the private high school I attended in a rural part of New Jersey led the entire class outside one afternoon. "Find a tree," he coaxed. "Find a tree and hug that tree, and take a minute to see what it feels like." We scattered. We found our trees. Skin to bark, we pressed our bodies against immense trunks. (A class full of high school seniors is a skeptical bunch. A class full of high school seniors is also easily persuaded to try something new if it means leaving a classroom.)

I hesitate to even attempt a description of what hugging a tree can feel like. It's not so much that I'm afraid of ridicule as that I lack the words to capture what I feel when I do it. I will say only this: that the feeling of hugging a tree can be likened to that of a child who finds himself at an adult dinner party, arms wrapped snugly around the legs of a parent. Humbled, he ceases his pleading, his whining, his mischievous play. All at once he is shy, respectful in the presence of elders. The world is older, bigger, and wiser than he.

I have taught John the practice of hugging trees. Later in the hike, I catch him, his brown arms wrapped fully around a thick trunk. I find my own, a sturdy oak with thick ridges of rough gray bark. I gaze up into its still-barren branches, the white sky visible between them.

This is a piece of New York, I think. I have to keep reminding myself; an hour and a half north of the city on the train and the landscape bears so little resemblance to the Brooklyn neighborhood I've left behind.

New York City, however, is not without its natural wonders. It is at these tran-

sitional times of year that we do find our eyes drawn, once again, to what grows and blossoms and blooms right outside our apartment windows, along the sidewalk as we stroll to work, in the parks we now purposefully try to wander through

en route to wherever else we are obliged to go. We sniff, we squint, we touch, like Lucy emerging from the wardrobe.

Here in New York City, where trees seem diminutive beneath the gleam of soaring buildings, we would be wise to train our eyes to recognize what we see, the better to prevent ourselves from losing sight of what's around. There is beauty to appreciate year-round in urban vegetation, just as in urban architecture.

A start: A recent tree census from 2005-2006 conducted by the city Parks Department found that the following are the top ten tree species in New York City streets. (This was made possible thanks to 1,100 volunteers who spent two summers recording information for every single street tree in New York City.) The percentages show the breakdown within the top ten.

1. London plane tree 15.3%
2. Norway maple, 14.1%
3. Callery pear, 10.9%
4. Honey locust, 8.9%
5. Pin oak, 7.5%
6. Little leaf linden, 4.7%
7. Green ash, 3.5%
8. Red maple, 3.5%
9. Silver maple, 3.2%
10. Ginkgo, 2.8%

Interestingly, this was the second

citywide count of trees that grow on New York City streets and are managed by Parks. The 2005-2006 Street Tree Census found 592,130 street trees (a figure that does not include the roughly 4.5 million trees in parks and on private

land). Notably, this was nearly a 20% increase over the last census ten years prior.

And so it seems that we inhabit a city that has a strong sense of the value of its greenery. It is a city that shows it, perhaps not with hugs but with actions that demonstrate appreciation in other significant ways. This year, the

New York City Department of Parks & Recreation and New York Restoration Project launched MillionTreesNYC, a citywide initiative to plant and care for one million trees across the City's five boroughs. Mayor Bloomberg and Rockefeller University's own trustee, David Rockefeller, have jointly pledged \$10 million to the project; tree-huggers of a different variety.

On the trail, John and I weave our way along the sloping path, glimpsing vistas that become more breathtaking as we ascend. At last, we reach our destination—a rocky summit warmed by the mid-day sunlight—and unpack our lunches. Soon, it is time to descend, and we pull on our packs and hoist one another up. The spindly shadows of branches fall across us, lengthened by the late day sun, as we enter the woods again.

Miles away, the city—vibrant and teetering on the cusp of the new season—awaits our return. ☉



Image by Elodie Pauwels

In Our Good Books

The reading suggestions have been kindly provided by staff members of the downtown bookstore McNally Jackson.

Don Quixote by Miguel de Cervantes, Edith Grossman translation.

I know it's a lot to ask someone to read this book (it weighs in at 1000+ pages and probably still inspires a palpable dread in anyone who had the poor luck to have it assigned in high school) but, please believe me, the reward is well worth the effort. Profoundly touching and absolutely hysterical, Don Quixote has been my favorite book for twenty years. It also happens to be the book that the Nobel Institute voted "The Greatest Book of All Time."

28 Stories of AIDS in Africa by Stephanie Nolen

This book will wring you out while it educates and humbles you. This is journalism at its best. It's a visit to an amazing continent at a heartbreaking moment.

Gods of Manhattan by Scott Mebus

A fantasy adventure that brings together people from New York's past and some contemporary kids with some hidden talents of their own, as they try to save Manhattan from destroying itself!

The Monster Loves His Labyrinth: Notebooks by Charles Simic

Fragments as good as poems, thoughts framed by words. These are nuggets, conjuring whole cities, whole wars, in a few sentences. It is a treat to see the mind in all its moods, a gift we can't refuse, or even resist. For instance: "God died and we were left with Emerson. Some are still milking Emerson's cow, but there are problems with that milk." (From page 45, selected, believe it or not, at random.) [I bet you could use this book like the I Ching, asking it questions and interpreting the answers from the section which offers itself as answer.]

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

The Subway Time

REVATHY U. CHOTTEKALAPANDA

A hip, a hop, a jolt, all the way

There goes the New York City subway.

Coiling and cradling several millions a day

With dreams and hopes and destinations say.

People and faces all varied

Most of them run hurried.

Thoughts and moments deep buried

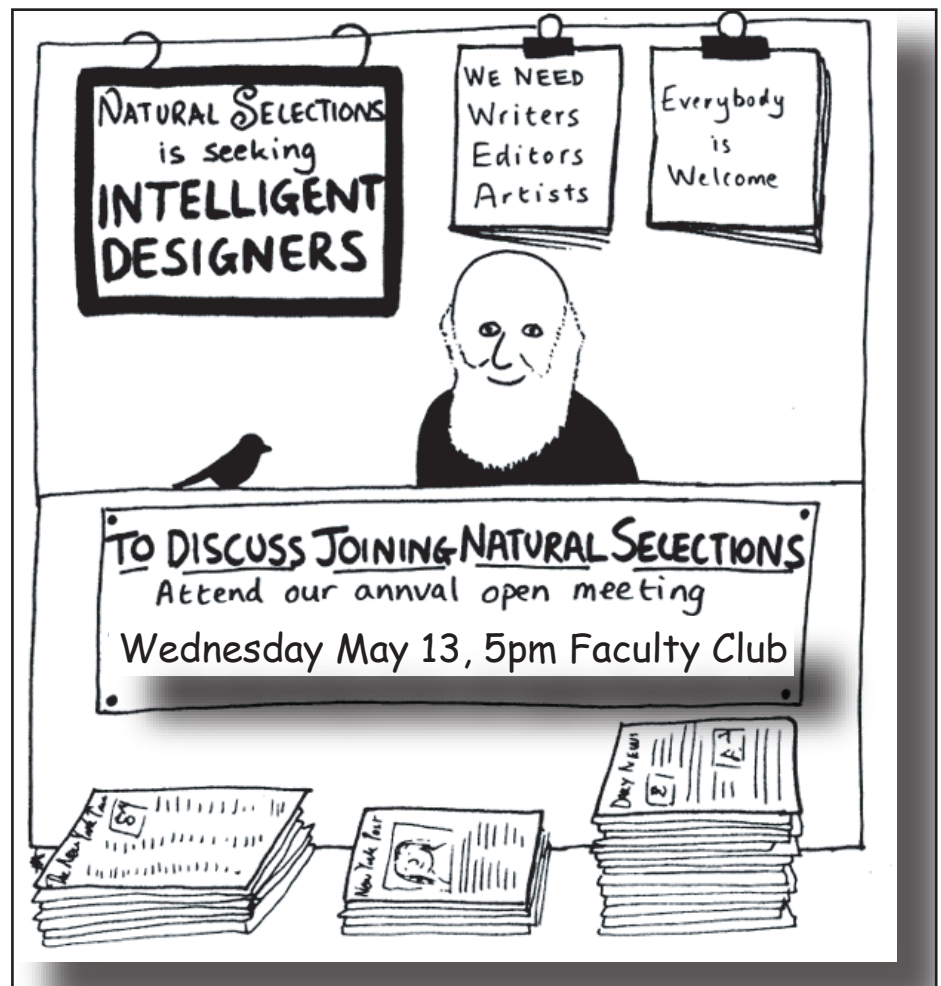
All in the course of the time journeyed.

A place for all, unity sublime

You can have your say, no crime.

Thus runs the New York City subway, prime

And carries all with reason and RHYME.





The Big Climb by Adria LeBoeuf



Flight by Adria LeBoeuf

