The hidden side of natural selection

The agents of natural selection cause evolutionary changes in population gene pools. They include a plethora of familiar abiotic and biotic factors that affect growth, development, and reproduction in all living things. For example, the evolutionary future of a plant species' population is shaped by physical agents such as soil moisture and fertility, and by living agents such as competitors, herbivores, pathogens, and pollinators. All of these agents are components of the external environment that surrounds every individual in nature.

But what about the physiological and biochemical conditions that prevail within an organism's cells, tissues, and organs? The phenotypic variation available for screening by natural selection results from many developmental events occurring within the growing organism (https://global.oup.com/academic/product/developmental-plasticity-and-evolution-9780195122350). These developmental processes and the genes that control them indirectly can influence many aspects of individual growth, morphology, and reproductive ability. Hence, natural selection can favor particular combinations of genes that optimize the growth and reproductive (Darwinian) fitness of genetically distinct organisms, mediated by the production of specific regulatory proteins, and other physiologically active metabolites. The selection pressures "derive from the internal dynamics of a functioning organism" as stated by Schwenk and Wagner (https://global.oup.com/academic/product/phenotypic-integration-9780195160437) (2004).
The hidden side of natural selection

The agents of natural selection cause evolutionary changes in population gene pools. They include a plethora of familiar abiotic and biotic factors that affect growth, development, and reproduction in all living things. For example, the evolutionary future of a plant species’ population is shaped by physical agents such as soil moisture and fertility, and by living agents such as competitors, herbivores, pathogens, and pollinators. All of these agents are components of the external environment that surrounds every individual in nature.

But what about the physiological and biochemical conditions that prevail within an organism’s cells, tissues, and organs? The phenotypic variation available for screening by natural selection results from many developmental events occurring within the growing organism. These developmental processes and the genes that control them indirectly can influence many aspects of individual growth, morphology, and reproductive ability. Hence, natural selection can favor particular combinations of genes that optimize the growth and reproductive (Darwinian) fitness of genetically distinct organisms, mediated by the production of specific regulatory proteins, and other physiologically active metabolites. The selection pressures “derive from the internal dynamics of a functioning organism” as stated by Schwenk and Wagner (2004).

Perhaps more intriguing as hidden agents of natural selection are microscopic symbiotic organisms commonly called endosymbionts that reside within the tissues of many animals and plants. Among the best studied endosymbionts are the fungi known as endophytes that live inside the tissues of most plants. These microscopic fungi exist as tubular hyphae that grow between cells in the host plant’s leaves; many of these fungi are asexual, do not produce spores, and are completely hidden from view unless observed under the microscope (Figure 1). The hyphae grow along with the host and may infect the host’s seeds, thereby being transferred to the young offspring that will eventually emerge when the seeds germinate.
For endophytes to function as significant internal agents of natural selection, they must elicit distinct effects on the phenotypes of the host genotypes they inhabit. Several fungal endophyte species have been shown to affect growth and reproduction of their host plants in either positive or negative ways. The direction of these symbiotic effects typically depend on both environmental conditions and host genotype (https://global.oup.com/academic/product/ecology-and-evolution-of-the-grass-endophyte-symbiosis-9780195308082). For example, in the widespread perennial ryegrass Lolium perenne (Figure 2), interactive effects of host genotype with endophyte infection have been reported for a diverse set of morphological and physiological traits in the host, such as tiller production, carbohydrate storage, net photosynthesis, dry plant mass, and seed yield. For some host genotypes, endophyte-mediated effects are positive, while for others they are neutral or negative. Thus the effects of external agents of selection in the immediate environment may be modulated by endosymbionts acting as additional, internal agents of selection.
As every student of evolutionary biology knows, the result of natural selection is adaptation of the population to its local environment. This means that organisms will be better able to survive and reproduce in a particular selective environment as they become better adapted to it. But can internal agents of selection result in adaptation of host populations? For some mutualistic interactions involving endosymbiotic microbes, the answer may be "yes". Mycorrhizal fungi, which are microbes symbiotic with the roots of many plant species, are predicted to show co-adaptation with the host populations they have evolved with. In prairies of the American Midwest, a reciprocal cross-inoculation experiment (http://www.pnas.org/content/107/5/2093) was conducted with three populations of the dominant prairie grass Andropogon gerardii (big bluestem). The roots of this large species are usually host to species of mycorrhizal fungi that improve its growth and reproduction and may be critical to its dominance in the tallgrass prairie ecosystem. Samples of soil from three prairie sites (Kansas, Minnesota, and Illinois) were reciprocally inoculated with fungi, and big bluestem plants from each population were planted into the different soil-fungi combinations. The researchers reported that root colonization of the beneficial mycorrhizal fungi was always greatest on plants in their usual local soil which contained the fungi normally living there. Generally, plants in local soil (inoculated with the local fungi) also showed greater reproduction compared to plants in soil from non-local sites. Thus, the authors maintained that local plant genotypes responded most positively to the molecular signals sent by co-adapted mycorrhizal fungal communities. This implies that the symbiotic fungi at a site had acted as internal agents of natural selection on the local host population in such a way as to maximize plant evolutionary fitness.

These examples provide evidence that the agents of natural selection are not always overt components of the external
environment it is often supposed. Internal conditions within the organism interact with its genotype, affecting growth and development, and also the organism’s reproductive capacity compared to other organisms with different genotypes (i.e., its relative fitness). Symbiotic microbes within the bodies of animals and plants are an important part of this hidden side of natural selection and deserve increasing recognition by evolutionary biologists.
Puerto Rico’s debt crisis has been attributed to a wide range of factors. So far, the blame has rotated between its tax policies (which critics describe as outdated), its ambiguous political status as a US commonwealth, and its waning popularity among tourists.
All these factors may have played a role in the territory's economic downturn. However, some have placed the blame squarely on hedge funds, many of which have New York City offices and billions in real estate investments.

While Puerto Rico may be more than a thousand miles away, its suffering has sent ripples to New York City, with local officials calling for federal aid while throwing barbs at hedge funds for their alleged role in the crisis.

During a speech two weeks ago, New York City Council Speaker Melissa Mark-Viverito called the firms that hold the territory's bonds “vultures that are eating off the misery of Puerto Rico.” Mark-Viverito, who was born and raised in the island's capital city of San Juan, criticized the commonwealth’s creditors for what she said was their role in weakening its economy.

Earlier this month, two mutual funds, Oppenheimer Funds and Franklin Advisers, sent a joint letter to Puerto Rican officials to demand full payment.

“The path that the current administration has chosen will steer Puerto Rico towards litigation and create further deterioration in the capital markets’ trust in Puerto Rico, potentially leading to years of economic turmoil,” executives of the two companies wrote.

The letter was addressed to Puerto Rico Public Finance Corporation, the agency that issued the bonds.

The continuing crisis has made hedge funds a target for politicians and activists.

Last week, local Latino politicians and teachers’ unions protested against a $8.5 million endowment given to Success Academy Charter Schools by hedge funder John Paulson who reportedly bought $120 million in Puerto Rican bonds.
The fact that Puerto Rico's debt crisis is a political issue in New York City comes as no surprise.

According to research from CUNY's Center for Latin American, Caribbean, and Latino Studies, Puerto Ricans account for the second largest Latino population in New York City. There are 719,444 Puerto Ricans living in the city; this figure amounts to about 20 percent of the entire population in the commonwealth.

With New York City professing a "strong personal tie" to its southern neighbor, officials have called for debt relief for the troubled territory.

Last month, Mayor Bill de Blasio called for federal intervention in the crisis, saying that Puerto Ricans "are saddled with a debt they cannot pay."

The mayor announced a five-point plan that includes exemptions from federal rules such as the Jones Act, and the negotiation of a "fair" repayment plan through President Obama's Working Group on Financial Markets.

He also called on Congress to pass the Puerto Rico Chapter 9 Uniformity Act, which would allow municipalities and utilities to restructure their debt in bankruptcy court.

David Eyzenberg, a principal at the Capital Markets Group of Avison Young, disagreed with the mayor's recommendations.

"Capital market should work like organized sports," Eyzenberg said. "Participants play under a set of rules overseen and enforced by referees. The referees do not stop in the middle of the game to change the rules to benefit one side or the other. "Bonds were sold with one set of assumptions, if you change that, then it's not 'fair' to the buyers, nor does it create stability and fundamental understanding of the rules going forward."

Eyzenberg attributes Puerto Rico's problems to a 2006 minimum wage law that imitated US labor standards. Since then, the territory has descended to a dance with default.

It has $72 billion in debt, an amount that its governor says cannot be paid and requires restructuring.
SUNY Poly jumps Penn State to grab No. 4 engineering ranking

Posted on August 10, 2015  |  By Larry Rullison

SUNY Poly's Albany campus

SUNY Polytechnic Institute in Albany has risen to No. 4 in the National Science Foundation's latest ranking of engineering research and development spending nationwide as its R&D funding surged.

The top-ranked R&D engineering school in terms of R&D spending is Johns Hopkins University in Baltimore with $878 million in engineering R&D spending. Georgia Tech and MIT have the No. 2 and No. 3 spots.

SUNY Poly's Colleges of Nanoscale Science and Engineering in Albany had $369 million in engineering R&D spending during the 12 months that ended June 30, 2013, the most recent period for which data was collected.

That was up 40 percent from fiscal 2012, when SUNY Poly had $262 million in engineering R&D spending and was ranked No. 5 behind Penn State.

With the increase in fiscal 2013, SUNY Poly leapfrogged Penn State to get grab the No. 4 spot.

Penn State was ranked No. 5 with $320 million in engineering R&D spending, up from $298 million in fiscal 2012.

R&D spending is money spent from grants and other research projects funded by government or the private sector.

Schools in the rest of the Top 10 were Texas A&M, the University of Michigan, Purdue University, Virginia Tech and the University of Texas.

SUNY Poly is also ranked No. 1 in the country for corporate R&D spending.
August 11, 2015

Colleges Under Investigation for Sexual Assault Wonder What Getting It Right Looks Like

By Robin Wilson
Washington

Five years into a federal review of how it handles sexual assault, Ohio State University is still trying to get it right.

The Education Department announced in 2010 that, under the gender-equity law known as Title IX, it was opening a compliance review of all of Ohio State's policies and procedures related to sexual harassment and assault, allegations of which had swirled around its marching band.

Over the next four years, investigators from the department's Office for Civil Rights made several visits to the campus, and Ohio State turned over thousands of pages of documents. Last September university and federal officials reached a resolution agreement that lays out 100 separate steps the institution must take to comply with Title IX, including about a dozen requirements of its Title IX coordinator.

The university must, for instance, measure the effectiveness of the changes it makes under the agreement, but not before assembling a focus group of students and employees to discuss how such a climate check should be carried out. Any plans for that must be approved by the civil-rights office before the university can proceed.

The dizzying list of requirements is typical of agreements the OCR, as the office is known, is slowly striking with colleges it investigates under Title IX. The investigations frequently follow complaints by alleged victims that colleges mishandled their cases or other accounts of problems on particular campuses. By the time the office finishes monitoring Ohio State, it will be 2017 — seven years
after the government began its review.

With campus sexual assault drawing tremendous attention nationally, how colleges respond is under scrutiny from students and advocates, as well as state and federal lawmakers. So when the civil-rights office asks a college for changes it says will make the campus safer, the college typically tries to do what it is told. But requirements are sometimes inscrutable.

No one argues with the goal of preventing sexual assault, but it’s unclear what exactly that should look like. When, campus officials wonder, will they have done as much as they can?

At a meeting of college lawyers in June, Ted Mitchell, the under secretary of education, called changes in how institutions handle sexual assault "a national experiment." Some administrators, and consultants who help them keep up with the government’s guidance, say that made them feel like guinea pigs.

Catherine E. Lhamon, who heads the civil-rights office, says colleges have more discretion than they think. "There is tons of wiggle room," she says, in how they set their policies.

Beyond trying to protect students, administrators say, the demands on colleges to reform their policies and procedures are enormous. Student-affairs officers particularly, they say, are buckling under the pressure of trying to meet the government’s approval with their prevention and adjudication efforts.

Because the stakes are so high — colleges found to have violated Title IX can theoretically lose all federal money — several administrators would not allow their names to be used in sharing their frustrations with the process.

Ohio State officials did question the OCR about some details in the agreement, including how the office had come up with some of its directives. But getting an answer can be difficult, and the university must move ahead to meet the requirements nonetheless.

"You can go through several rounds of conversations with the OCR to make sure your policy language matches what you’ve agreed to
do," says Kellie Brennan, Ohio State’s Title IX coordinator. "It has been a while for us to get to a place where we are even comfortable with a draft."

'Onerous' Reviews
The higher-education cases the civil-rights office closed in 2014 took an average of 1,469 days — nearly four years — to complete. And the list of institutions under investigation is growing at a faster rate, from 55 in May 2014, when the office first made the list public, to 128 today. In the two years since Ms. Lhamon took over as assistant secretary for civil rights, the office has settled just seven investigations.

In a letter to several senators in April, the office explained why the process takes so long. "While OCR’s goal is to resolve all complaints within 180 days, sexual-violence investigations tend to be complex and may involve systemic, campus-, and institution-wide issues," the letter says.

The OCR, it says, "comprehensively examines the campus culture with respect to sexual violence, reviews the institution's response to complaints of sexual violence over a period of years, interviews students who filed sexual-violence complaints, interviews school officials involved in responding to sexual-violence reports and complaints, and meets with individual students and student groups."

While the Obama administration has asked Congress for money to hire 200 more investigators, Ms. Lhamon says the job is so large that the office could actually use 500 more people.

"A review is onerous," Ms. Lhamon says. "I don’t love how much time it takes for my staff, and I don’t love how much time it takes for schools. But I do love ensuring safety for all students on campus."

While colleges are under investigation, they must conduct business as usual: fielding reports of sexual assault, hearing cases, training students, faculty, and staff. They must also decide whether to change their policies along the way or wait until the investigation is complete.
The University of Connecticut has been on the investigation list since 2013, first for one set of cases, and since this past winter, for another. Elizabeth Conklin, Connecticut’s Title IX coordinator, says that after a federal complaint against an institution, the OCR tends to look not only at the case of the individual who filed the complaint, but at all reports of sexual assault, policies, communication with students who report incidents, and prevention campaigns.

"It is the full landscape of what a university is doing," she says. "It is a very 50,000-foot view down to the weeds and everything in between."

Nicole Fournier Geltson, general counsel at Connecticut, says satisfying the government’s requests can be challenging because universities are so decentralized. "A single student complaint at UConn could involve multiple offices responding," she says. "That student may have filed a report with [the campus] police, probably had assistance from our dean of students in changing classes or a dorm room, and may have had assistance from the women’s center or a professor."

During its investigations, Connecticut has continued to modify how it handles students’ reports to keep up with what’s considered most effective. "We are constantly making changes large and small to policies, procedures, protocol, and prevention," says Ms. Conklin. "My reading is that this can’t wait."

Ruth Jones, Title IX coordinator at Occidental College, says sexual-assault policies on campuses nationally are "continually evolving." That means institutions are always tinkering, even while a review is underway, which has been the case for two years at Occidental.

"We keep reading and thinking and trying to figure out the most effective way to do things," says Ms. Jones. Many of the changes her office makes are small but important, she says. One is in its communication with students on both sides of a case: how many updates to send them while the college is investigating a report.

"Right now, we give one for every stage," Ms. Jones says. "But we are still trying to decide, Would an update once a week be more
appropriate?"

For now, the national experiment is still playing out, as colleges try to both protect students and comply with Title IX. It was the Obama administration that made enforcing the 1972 law a priority in responding to sexual violence. With so many investigations pending, a change in administration could bring a different approach.

Eventually, Ms. Lhamon says, campuses will reach the standards the civil-rights office is aiming for. "I really hope we don’t need to sustain this level of attention to this issue," she says. "I really hope that we turn a corner, and this is no longer a flash point."

Robin Wilson writes about campus culture, including sexual assault and sexual harassment. Contact her at robin.wilson@chronicle.com.
Nobel Prizes in science: strictly a man’s game?

A new play examines why less than 3% of Nobel laureates in science are women - and highlights the stories of a few of those who have succeeded

Steve Caplan
Tuesday 11 August 2015 09,39 EDT

It’s clear to me that female scientists have always been swimming against the current - and continue to do so today. But the play No Belles, staged recently at the Winnipeg Fringe Festival, has brought this unfortunate situation to dramatic life.

A three-woman show written and performed by Portal Theatre company, No Belles presents the fascinating personal stories of members of a rare club: women who are Nobel laureates in science subjects (to date only 17 prizes have been awarded to women).

These prize-winning women overcame tremendous adversity to make unparalleled contributions to science. No Belles resurrects some of their personal stories to vibrant life, achieving what all good art strives for by laying bare the human reality of their situations, and delivering an emotional punch to raise them above the abstractions of science.

It’s one thing to know that brilliant, skilled and highly educated women (many in eras when to become highly educated was a feat in itself) were unable to get paying jobs at academic institutes (except as “add-ons” to their academic husbands). But it’s an entirely different experience to watch talented actors depict, for example, the frustrated and yet unstoppable brilliance of theoretical physicist Maria Goeppert Mayer (Nobel Prize in Physics, 1963) on her journey from university to university, essentially as an unpaid volunteer, to pursue her research and discover that nuclei with the ‘magic numbers’ numbers of protons and neutrons (2, 20, 28, 50, 82 or 126) were more stable than other elements. Her discovery revealed that the atomic nucleus has a structure that in some ways parallels the discrete energy levels occupied by electron shells in atoms that had been elucidated years earlier by Niels Bohr.

Especially poignant was the description of Mayer’s arrival at Hunter College after being what amounts to a persona non grata at Johns Hopkins, Columbia and several other research institutes. Rather than finally being treated with respect, she was told to dumb down her teaching, as “women don’t need to know much about physics”. The ultimate insult came soon after her crowning achievement, when the San Diego newspapers reported, “San Diego mother wins Nobel Prize”.

ADVERTISING
In the course of their research to create this production, the company noticed that an unusually high proportion of these outstanding female scientists came from Jewish families. This is highlighted in the play, and the cast ask themselves (and the audience) why this is so. They provide at least one suggestion - that the desire for learning and education (of both sexes) was and is highly valued in Jewish culture.

While this rings true intuitively, I wonder whether it is really the primary explanation. A quick internet search brings a variety of reasons that are either racist or silly. Some websites provide creative explanations for the success of (male and female) Jews in science that range from “Jews needing to prove themselves” to “using literacy and learning as survival mechanisms”. Even the great Richard Dawkins does not have a handy explanation, and noted that “Race does not come into it. It is pure religion and culture. Something about the cultural tradition of Jews is way, way more sympathetic to science and learning and intellectual …”

My personal speculation is that because the movement of Jewish women into science occurred concurrently with the liberalization of European Jewry and their veering away from orthodox tradition and toward liberal lifestyles, this left a perfect gap for women to move into education, careers in science and other fields.

The unique and ingenious perspective of No Belles comes from the personal and honest vantage points of the cast. It seems that each actor has chosen a personal favorite with whom she could identify, making it easier for the audience to empathize with the scientist and her struggles. Rita Levi-Montalcini (Nobel prize in Physiology or Medicine, 1986) who discovered Nerve Growth Factor, a key player in the genetic control of early embryonic development, exemplified this dedication and ability to overcome obstacles in war-time Italy, riding her bicycle from village to village to beg for fertilized eggs to carry out her research on chick embryos. She even lied to farmers and claiming that the eggs were for her (non-existent) babies.

In another scene, an actor reads out the fascinating letters written to Gertrude “Trudy” Elion (Nobel prize in Physiology or Medicine, 1988) by grateful parents thanking her for her discovery of drugs (including anti-cancer drugs 6-mercaptopurine and 6-thioguanine, the immunosuppressive drug azathioprine, allopurinol to treat gout, and acyclovir for HIV treatment) that saved the lives of their children.

Yet another vignette portrays the humiliation of Rosalind Franklin, who was instrumental in solving the structure of the DNA double helix. The play examines her treatment by male counterparts (including in the memoir The Double Helix written by Nobel laureate James Watson).

Despite the discrimination and unfairness portrayed throughout the play, it is anything but bitter. The actors joke about some of the eccentricities of their female heroes - including Nobel winner in Physiology or Medicine in 1977, Rosalyn Yalow, who invented the radioimmunoassay, a sensitive method for detecting molecules in the bloodstream. Yalow, who was justifiably proud of her award, was not above wearing a specially-made replica of her medal on a chain around her neck.
Lin-Manuel Miranda, Creator and Star of ‘Hamilton,’ Grew Up on Hip-Hop and Show Tunes

By MICHAEL PAULSON  AUG. 12, 2015

His parents own hundreds of Broadway cast albums; his mother blasted “Camelot” in the car and his father is obsessed with “The Unsinkable Molly Brown.”

His school bus driver had a passion for rap, drilling him in lyrics by Boogie Down Productions, Geto Boys and the Sugarhill Gang.

In the Venn diagram of contemporary music, hip-hop and musical theater have little overlap, but that is the space in which Lin-Manuel Miranda lives, the space that birthed the new hit musical, “Hamilton,” which opened last week to some of the strongest reviews in years.

The story of “Hamilton,” as is now well known, was inspired by a best-selling biography, “Alexander Hamilton,” written by the historian Ron Chernow. But the music of “Hamilton” is a product of Mr. Miranda’s own polyglot palate, shaped by the listening habits of his family and his friends, and the sounds of his neighborhood and his generation.

“Here’s the thing that I’ve observed about Lin Miranda,” said Oskar Eustis, the artistic director of the Public Theater, where “Hamilton” had an Off Broadway run. “He deeply loves musical theater and Broadway, and has since he was a child, and he deeply loves hip-hop and pop music as a whole, and has since he was a child.” He added, “His ability to work in both of those forms is inseparable from the fact that he
loves both forms — he’s not being a tourist when he visits one or the other, but he’s deeply embedded in both of them."

So there Mr. Miranda was at Joe’s Pub one night early this summer, improvising hip-hop lyrics using words shouted out by audiences at a gig featuring his group, Freestyle Love Supreme. But there he is, too, often on Twitter and occasionally outside the Richard Rodgers Theater, parrying questions from fans with lyrics from "Rent," "Jesus Christ Superstar," "A Chorus Line" and "West Side Story," all of which he has memorized.

The 35-year-old son of Puerto Rican parents, raised in a heavily Hispanic neighborhood of northern Manhattan and educated at a public school for gifted children on the Upper East Side, Mr. Miranda is an exuberant fanboy who happily tweets mash-ups of lyrics from Drake and "The Little Mermaid," knowing that almost no one will get the joke.

He recognized early that hip-hop and show tunes, even with their different sounds and audiences, share an emphasis on storytelling — both musical styles are animated by lyrics that advance narrative, and that understanding shaped "Hamilton," which he conceived, wrote the music and lyrics for, and stars in.

Latin music was big in the Miranda home, in Inwood, and in Puerto Rico, where Mr. Miranda spent his summers. But rap and hip-hop were woven into his childhood as well.

"It was the music that was on the rise," he said. He remembers, in the 1980s, his sister’s taking him to see "Beat Street," an early film about hip-hop. Soon he was listening to the Fat Boys, the Beastie Boys, Eric B. & Rakim.

And then there was that bus driver, Billy Baker Jr., who shuttled children from Inwood to Hunter College Elementary School, and en route taught them lyrics; Mr. Miranda can still sing an a cappella version of "Beef," an anti-meat-eating song by Boogie Down Productions.

Mr. Miranda is also steeped in musical theater, a passion that began with his father, the political consultant Luis A. Miranda Jr., who for a time sold LPs in Puerto Rico, and now has hundreds of cast recordings and huge piles of Playbills. ("I don't
collect them, but I find it disrespectful to throw them out,” he said.)

The Mirandas could rarely afford to take their children to Broadway, but cast recordings were always available. “The only shows I saw as a kid were that holy trinity: ‘Les Miz,’ ‘Cats,’ ‘Phantom,’ ” Lin-Manuel Miranda said. Yet he repeatedly listened to “Jesus Christ Superstar” and “Man of La Mancha,” as well as to movie musicals, like “The Sound of Music” and especially “The Unsinkable Molly Brown,” which his father loves so much that last year he flew to Denver to see a new staging. (“I don’t understand how anybody can live without having seen “The Unsinkable Molly Brown,”” the elder Mr. Miranda said.)

Lin-Manuel Miranda took his future wife on an early date to the orchestra pit at “Wicked.” At their wedding, he led the bridal party and groomsman in a flash-mob version of “To Life” from “Fiddler on the Roof.” He sings lyrics from “Newsies” backstage at “Hamilton.” And his 9-month-old son is named Sebastian, which he liked for several reasons, including that it is the name of the crab in “The Little Mermaid.”

Mr. Miranda is now friendly with writers he idolizes, even as they vary in style. “We’re all a bunch of unicorns,” he said. “I couldn’t possibly write ‘Next to Normal,’ but God, I can weep and watch ‘Next to Normal’ five times.”

As a high school student, he met Stephen Sondheim when the composer-lyricist spoke at Hunter; now Mr. Miranda sends him unfinished work for feedback. And he is particularly close with John Kander, the 88-year-old composer who collaborated with Fred Ebb on works including “Cabaret” and “Chicago.”

Mr. Kander introduced himself to Mr. Miranda after seeing the Off Broadway run of his earlier musical, “In the Heights,” and now the two regularly have lunch; Mr. Kander refers to Mr. Miranda as “boy genius,” and Mr. Miranda to Mr. Kander as “The Source.”

“Innovators are usually synthesizers — they synthesize everything they know and add their own personal talents, and out comes something new,” Mr. Kander said. “What Lin is is a refreshing and healthy contemporary synthesist of everything he’s known before.”
Mr. Miranda’s interests remain eclectic. One day, asked about his musical tastes during an interview, he pulled out his iPhone and hit shuffle — the first songs to come up were by Macy Gray, Jay Z and Faith Evans, and XTC, tracks from “Bright Lights, Big City” and “Merrily We Roll Along,” an early cut of a song from “Hamilton,” and music from the South Pacific (the region, not the show), which he is exploring while pondering future projects.

He said he periodically listens to music the same way, while riding the train or walking the dog. “More often than not, I’ll put on shuffle, and that’s like the message the universe wants to send me that day,” he explained.

He has a gift for memorizing lyrics. One afternoon, in the orchestra pit at “Hamilton,” when the musical “Fun Home” came up in conversation, he spontaneously began to belt out “Ring of Keys,” a showstopper sung by an 11-year-old actress.

“One of my first favorite books was ‘The 12 Days of Christmas,’ and I would just go up to people and say, ‘I can sing ‘The 12 Days of Christmas,’ and I would make them sit through me reciting it, and I’d go all the way, each time,” he said. “I’ve always hooked into lyrics.”

Mr. Miranda took to performing at an early age. “I remember his first piano concert — he had to be like 7 — and people applauded, so he played a second song, and people applauded, and I remember his eyes popping up, and he said, ‘I know another one,’” his father said. “After the fourth round, the teacher gently pushed him off the piano so other kids could play.”

By sixth grade, he was performing in musicals. His school produced 20-minute versions of six shows in one performance. He sang backup to Addaperle in “The Wiz,” and played a cowhand in “Oklahoma!,” a son in “Fiddler,” Bernardo in “West Side Story,” Captain Hook in “Peter Pan,” and Conrad Birdie in “Bye Bye Birdie.”

“My abuela made my gold-lamé jacket,” he added, “and every girl in the grade had to pretend to be in love with me, and I went, ‘Well, this is the best thing that’s ever happened to me.’”

In high school, he was cast as the Pirate King in “The Pirates of Penzance,” and
then as Judas in “Godspell.” He was hooked. He assistant-directed a production of “A Chorus Line” (his girlfriend was the director) and then directed “West Side Story” (his father was accent consultant for the non-Hispanic kids playing Sharks). And he started writing musicals — a 15-minute Freudian dream called “Nightmare in D Major,” followed by a short piece about an unchaperoned party called “Seven Minutes in Heaven.”

His musical language was largely rock, inspired by “Rent,” which a girlfriend had taken him to see on his 17th birthday, and which he described as “a revelation — that you could write about now, and you could have musicals that really felt contemporary.”

He enrolled at Wesleyan University, intending to study film and theater, but film gradually fell by the wayside. He was cast as Jesus in “Jesus Christ Superstar,” staged a campus version of “Seven Minutes in Heaven,” and wrote a draft of “In the Heights,” which used Latin music and hip-hop to tell a story about Hispanics in Washington Heights.

One week after he graduated, he met with a fellow Wesleyan alum, Thomas Kail, who had read the script and listened to a recording of “In the Heights” and thought it had promise; six years later that show won the Tony for best new musical.

Mr. Miranda acted in film and on television and worked on several less successful musicals — a bilingual adaptation of “West Side Story” and a stage version of the cheerleading movie “Bring It On” — while beginning work on “Hamilton.” He said he saw in the Treasury secretary’s difficult childhood echoes of Jay Z, Eminem and Biggie Smalls. “I recognized the arc of a hip-hop narrative in Hamilton’s life,” he said.

And, he said, he also thought hip-hop was the perfect musical style for describing the American Revolution, because it is “the language of youth and energy and of rebellion.”

“There’s been lots of theater that uses hip-hop in it, but more often than not it’s used as a joke — isn’t it hilarious that these characters are rapping,” he said. “I treat it as a musical form, and a musical form that allows you to pack in a ton of lyric.”
Alex Lacamoire, the orchestrator and musical director of "Hamilton," said Mr. Miranda was especially fond of '90s hip-hop, "because that's what he grew up with, and he loves anything that's syncopated and rhythmic." Frequent collaborators, the two can go on at length about the difference between the pure rhymes of musical theater, the assonance and internal rhyming of hip-hop, and the virtues of each.

Hip-hop is used heavily in "Hamilton" — the title character raps in wordy, dense sentences, but some other characters have different sounds: Thomas Jefferson, for example, has songs inspired by Gil Scott-Heron and Lambert, Hendricks & Ross, positioning him in an earlier generation than the other characters.

"He goes from a hard-driving rap song to a pop ballad to an R&B number to a Pythonesque Beatles pastiche, and he even throws in a few witty references to the Great American Songbook for good measure," said Weird Al Yankovic, the Grammy-winning parodist, whom Mr. Miranda credits with opening his eyes to the idea that any musical genre can be exploited for storytelling purposes.

Mr. Yankovic now considers himself a friend and potential collaborator with Mr. Miranda, and he went to see "Hamilton" at the Public, as did the recording artists Sara Bareilles, Rubén Blades, Black Thought, Busta Rhymes, Jon Bon Jovi, David Byrne, Cher, Judy Collins, Josh Groban, Madonna, Jason Mraz, Q-Tip, Questlove, RZA, Regina Spektor, Swizz Beatz — and Paul McCartney.

"For decades there has been a disparity between the kind of music that one hears on the Broadway stage and the kind that one hears on the radio or in the clubs," Mr. Yankovic said. "By working with a more contemporary musical palette, Lin-Manuel is erasing that line in a major way."

A version of this article appears in print on August 16, 2015, on page AR5 of the New York edition with the headline: A Child of Broadway and Hip-Hop.
NFL's Roger Goodell indicates compromise not near

By: Matt Stolt

A stone-faced NFL Commissioner Roger Goodell indicated yesterday that he is not ready to compromise to bring an end to his ongoing war with Tom Brady.

"We got the letter today," Goodell said of federal judge Richard Berman's order calling for "further" settlement talks between the sides. "We will certainly cooperate fully with that and will allow the judge to handle the process from there."

Brady and Goodell are set to face off in a New York federal court this morning in what could be a mostly closed-door affair, but doubts linger among court-watchers about whether the two sides can hash out a deal in the star quarterback's fight to lift his four-game DeflateGate suspension.

"I think the hardest part about the negotiations is the labor-management relationship in the NFL has fallen to a ridiculous level," said Marc Edelman, a sports law expert and associate law professor at Northeastern University. "It would seem to work best if it was held behind closed doors. There's probably some disconnect between the rhetoric and their legal arguments."

"But," Edelman added, "this seems to be a microcosm of a much larger problem" between the NFL Players Association and the league.

Berman yesterday urged the NFL and the NFL Players Association to "engage in further good faith settlement efforts" ahead of today's 11 a.m. hearing in Manhattan. In a brief, one-page filing, he also called for lawyers on both sides to meet with him beforehand "for an update on your discussions."

Brady, who missed practice yesterday to prep for the hearing, and Goodell are both slated to appear in the public court session.

But beyond making initial statements, lawyers may likely retreat to the judge's chambers for stretches as closed-door settlement talks would continue out of the public eye, said Michael McCann, director of the sports law program at the University of New Hampshire.

If talks were to drag out — or break down — Brady and the NFL would likely head back to Berman's courtroom next Wednesday in a hearing McCann said would likely be far more public and "telling."

"The truth is, it's not that complicated of a resolution," McCann said. "It's not some multinational business merger. This is about whether he's suspended or not, and whether the suspension could become a fine. The hardest part is whether there's a settlement to be had."

Goodell's remarks appear to fly in the face of Berman's wishes. Darren Heitner, a sports and entertainment attorney in South Florida, said, "The judge has made it quite obvious he does not want to rule on the merits of the case."

Jeff Howe contributed to this report.
Queens Plaza Bike Crash Victim Dies

By Liz Goff

A 20-year-old college student who was run down by a car while heading home on July 28 has died from his injuries, police said.

Police said Kevin Lopez, a business administration student at LaGuardia Community College, was pedaling north in a bike lane on 29th Street when he attempted to cross Queens Plaza North near the entrance to the Queensboro Bridge at about 2:10 p.m. on July 28, when he was struck by a westbound Mercedes-Benz.

Lopez struck the car's windshield and fell to the pavement, and was taken to New York Presbyterian Hospital Weil Cornell Medical Center with severe head trauma and other multiple injuries. He fought for his life for just over a week before passing away at the hospital on July 5, authorities said.

Lopez, who was headed to his Long Island City home at the time of the accident, worked part time at a Boston Market Restaurant in Manhattan, and dreamed of owning his own business, family members said.

Authorities said information released immediately after the crash that indicated the driver was drunk at the time of the accident was "premature." The driver remained at the scene and has not been charged in the accident, authorities said.
Federal grand jury indicts Staten Island man in terrorism plot

John M. Annese | annese@siadvance.com By John M. Annese | annese@siadvance.com

Follow on Twitter

on August 11, 2015 at 9:32 PM, updated August 11, 2015 at 9:56 PM

STATEN ISLAND, NY. - A federal grand jury has indicted a Staten Island ISIS-related terrorism suspect accused of trying to stab an FBI agent to death in June.

In a six-count indictment unsealed Tuesday, prosecutors have accused Fareed Mumuni, 21, of Mariners Harbor, and Munther Omar Saleh, 20, of Queens, of conspiring to provide material support to a foreign terrorist organization and conspiring to assault federal officers.

Mumuni, who allegedly sought to plunge a kitchen knife into the chest of an FBI special agent executing a search warrant on his Mersereau Avenue home on June 17, is also accused of attempted murder of federal officers.

The agent survived the attack -- authorities said Mumuni's knife couldn't get through the agent's body armor.

"As alleged in the indictment, both Munther Omar Saleh and Fareed Mumuni demonstrated their support for ISIL by attacking the law enforcement officers. The arresting officers exercised extraordinary skill and remarkable restraint in subduing the defendants, who will now face the full force of justice in federal court," said Kelly T. Currie, the Acting U.S. Attorney for the Eastern District of New York.

Both men are slated to be arraigned in Brooklyn federal court on Aug. 20. Mumuni faces up to 85 years in federal prison if he's convicted at trial, while Saleh faces up to 65 years.

Saleh was a student at Vaughn College of Aeronautics and Technology in Queens, and Mumuni was studying social work at the College of Staten Island.

Federal prosecutors say the two "exchanged electronic communications in which they discussed attacking members of law enforcement."

According to the initial complaint against him, Mumuni had "pledged allegiance to ISIL" and kept a knife in case the FBI showed up.

Saleh is accused of charging, knife in hand, at a law enforcement officer on June 13. He's also accused of plotting to build and detonate pressure-cooker bombs.
Yelp's Diversity Report Reflects Improvement

Across Silicon Valley, diversity has been hailed as one of the tech industry's greatest problems. Facebook, for example, has publicly acknowledged its struggles with gaining a diverse employee base. But diversity isn't quite the same challenge for one Bay Area-based tech company: Yelp.

Yelp, the application and site that allows for local discovery of restaurants and services, has a diverse workforce that welcomes Latinos, African-Americans and women. Based on 2015 diversity numbers that have already been released, this is something that no other tech company has accomplished. More than that, Yelp has taken comprehensive steps to institute inclusive hiring.

The company's 2014 workforce diversity report already showed that the company was one that looked to be inclusive of various cultural backgrounds, life experiences, ages, genders, sexual orientations, religious and political beliefs, educations, opinions and more. Employment efforts to procure women engineers, multicultural employees and individuals of diverse lifestyles were executed to accelerate the company.

Last year, approximately 47 percent of Yelp's staff was female, Also, 12 percent of the staff was Asian, 7 percent was Hispanic and 4 percent was black. While the staff was overwhelmingly white, the diversity numbers are higher than the numbers from similarly ranked companies. For instance, 30 percent of Google's employees are women, 3 percent are Hispanic and 2 percent are black; 37 percent of Yahoo's employees are women, 4 percent are Hispanic and 2 percent are black. Also, 32 percent of Facebook's employees are women, 4 percent are Hispanic and 2 percent are black. Neither Google nor Yahoo showed any gains since last year, while Facebook saw a one percent increase in the number of women it employs.

Yelp is a slightly different type of company than many others, however. It's much smaller than Facebook or Apple, which have 10,000 and 98,000 employees, respectively. Meanwhile, Yelp has just 3,000, which makes it easier for them to achieve gains in diversity. Also, women and multicultural groups might find less difficulty when looking to penetrate Yelp's workforce, as half of the workforce is on the company's non-tech sales team. Additionally, Yelp has chosen to aggressively recruit at universities with sizable diverse populations, and they encouraged company leaders to reach firm objectives and goals. Pinterest and Intel have also done the same.

According to the National Girls Collaborative Project, Yelp would like the percentage of female engineers to be equal to the number of women receiving computer science degrees (18.2 percent). The sales team is working toward 2020 as a major benchmark for additional diversity and inclusion efforts. They're also looking to increase female representation among the company's engineers.

"For us, we're doing really well with gender equality here, but when you're looking at gender when it comes to our engineering team, we definitely have a lot of growth to do," Rachel Williams, Yelp's head of diversity and inclusion, told International Business Times. "That's the focus for the engineering team -- getting more women in and retaining those women."
Yelp has partnered with Women Who Code, Hackbright Academy, Year Up, Awesome Women in Engineering, and DiverseBurst to find and employ extraordinary candidates. Also, the company surveys institutions like City University of New York, the University of Central Florida and the University of Texas, and placed student ambassadors at Howard University, Arizona State University and several other diverse schools to help fuel the company. Additionally, Yelp has focused its interest on bringing in underrepresented groups, matching the demographics of whatever city a given office is based in, whether its Chicago, New York, San Francisco or Scottsdale.

Yelp has reportedly also taken several steps to make its company more welcoming and empowering for multicultural individuals and women, which should help them to reach its diversity goals. The company may be far from its goals, but their ongoing strategies will help them to effectively employ an increased number of women, Hispanics and African-Americans.
WTAMU Named to Partnership Program with Cuba

CANYON — West Texas A&M University is one of 12 universities selected nationwide to participate in the 2015 International Academic Partnership Program Cuba cohort.

The six-month program is part of the Institute of International Education, is designed to prepare universities in the United States with the knowledge they need to consider entering into reciprocal exchanges with Cuban institutions of higher education.

With the normalization of U.S.-Cuba relations, this program gives American colleges and universities their first opportunity in more than 50 years to connect with their Cuban counterparts through planning, mentorship and study tours.

"This is very pioneering work, and it's a real honor for us to be involved," Dr. Paul Clark, professor of history and coordinator of the WTAMU cohort, said. "It is hoped that after six to nine months of study with the other 11 universities that we will be in a position to make good decisions about whether or not we want to be among the first to enter into a formal agreement. WTAMU would then be able to host students and faculty and potentially send students and faculty to Cuba to learn as much as we can from each other."

Clark and other members of the WTAMU faculty are currently participating in a webinar series as part of the training and preparation for the Cuba initiative and to learn more about Cuba's higher education system. A steering committee comprised of faculty, staff and administrators will work together to define WTAMU's partnership strategy, and a study tour to Cuba is planned for October.

"This is an amazing opportunity in so many ways," Clark said. "It opens the door to study abroad experiences for the 'near abroad' and could potentially offer many reciprocal exchanges for both our students and faculty in such disciplines as agriculture, Spanish and music. I am just tickled to death about it."

Others joining WTAMU in the Cuba cohort program are the University of Indiana, Rutgers University, University of Arizona, University of Nebraska, University of Tampa, Virginia Commonwealth University, Case Western Reserve University, City University of New York's Lehman College, State University of New York at New Paltz, Oberlin College and the Associated Colleges of the Midwest (a consortium of independent colleges in Illinois, Iowa, Minnesota, Wisconsin and Colorado).

Clark said that if all goes well, it is possible that WTAMU could sign a reciprocal exchange with a Cuban university in 12-18 months.
New York City's Mayor Fighting Bad Ol' Days Perception

New York City's mayor fights perception, fair or not, that Big Apple's bad ol' days returning

By JONATHAN LEMIRE

The Associated Press

NEW YORK

Mayor Bill de Blasio is having a really bad summer, unable to shake a media-driven perception that the Big Apple's crime-and-vagrant-filled days are returning.

Homicide and homelessness numbers are up only modestly but that hasn't stopped almost daily tabloid pictures of bedraggled men urinating in the streets or bathing in public fountains. One tab has adopted the standing headline "Rotting Apple" and launched a website deblasio.fail that counts down the hours until his term ends at the end of 2017.

All of that comes amid a series of political setbacks, including a dispute with Uber that made him the target of millions of dollars in attack ads and an about-face on hiring new police officers that seemed like a cave to his police commissioner and City Council. And most notably, there was de Blasio's diatribe against the governor, which only heightened the tension between the two men that has now spilled into a turf war amid a deadly Legionnaires' outbreak in the Bronx.

While the mayor's allies have steadfastly defended his record, de Blasio's sudden losing streak has taken a toll, sending his poll numbers plunging.

"He should be very worried," said Kenneth Sherrill, professor emeritus of political science at Hunter College. "He's in some trouble and you can't just say, 'In two years I'll be fine.'"

A Quinnipiac University poll released this week found the percentage of New Yorkers who disapprove of de Blasio's job performance has increased to the highest point since he took office in January 2014. And only about one-third of those surveyed say their quality of life is "good" or "very good," a record low for the poll, which has been asking that question since 1997.

De Blasio's own aides believe his ill-fated dispute with Uber inflicted the biggest wound.

A City Hall proposal to cap Uber's growth over concerns about traffic congestion led the ride-hailing service to blanket the city with ads that accused de Blasio of turning his back on the minority residents of outer borough neighborhoods who struggle to find traditional yellow taxis.
The administration appeared caught off-guard by the onslaught and eventually puntted, extracting a few concessions from Uber in exchange for tabling talk of a cap. That crisis may have passed, but the mayor is locked in near-daily feud with Gov. Andrew Cuomo that shows little sign of relenting.

Cuomo has frequently thwarted de Blasio's agenda and provided little vocal support for the mayor's plans during this year's state legislative session. De Blasio, who had largely bit his tongue over the governor's perceived slights, eventually broke his silence and blamed the governor for not acting "with New York City's interests at heart."

"(He) keeps playing out in ways that I think sometimes are about deal-making, sometimes about revenge," de Blasio said. "I have been disappointed at every turn."

Though many of the mayor's allies defend de Blasio's outburst, saying he needed to send a signal that he wouldn't be bullied, it is clear that his decision to fight back hasn't reduced any tension. The two administrations have even bickered this week during a public health crisis, holding competing news conferences during the Legionnaires' outbreak that has killed 12 people.

Discussions were held before the outbreak to plan an event where the men would make a joint appearance as a public display of reconciliation, but those talks have been postponed, according to a city official familiar with the plan who spoke to The Associated Press on condition of anonymity because the official was not authorized to speak publicly on the matter.

"De Blasio's report card right now for 2015 isn't looking great and who thinks he'll have more luck in Albany next year considering the enemies he's made there?" asked Jeanne Zaino, political science professor at Iona College.

The strain apparently has taken a toll on de Blasio, who has appeared snippy at recent news conferences and has taken pains to put seemingly disturbing statistics in context.

Homicides have gone up 10.1 percent, but from historic lows from 178 to 196 from this point a year ago. Meanwhile, the number of homeless in shelters has also risen to 56,000 from approximately 52,000 when de Blasio took office.

The mayor's aides have pushed back against the perception that de Blasio is faltering, noting that his 2015 accomplishments like ramping up his affordable housing plan produce fewer immediate tangible results than last year's centerpiece, the launch of universal prekindergarten.

"People said the mayor would never be elected, and he was," press secretary Karen Hinton said. "The mayor is a straight ahead, get-the-job-done practician. He will keep doing what he's been doing, and New Yorkers will see the results."

There are myriad signs that de Blasio can rally. His support among his base namely blacks and Latinos has slipped some but remains high. The city is overwhelmingly liberal and it usually takes a calamity for an incumbent Democrat to lose. And his poll numbers have previously rebounded after clashes with charter schools and the police unions.

"This is not the death knell by any stretch of the imagination," Zaino said. "But it should be a wake-up call."

Copyright 2015 The Associated Press. All rights reserved. This material may not be published,
Forest Hills National Night Out Against Crime

By Joyce Vetere Milowski and Dan Miller

On August 4, Forest Hills joined thousands of communities throughout the United States to celebrate National Night Out Against Crime. The 112th Precinct Community Council led by Council President and Chair Heidi Harrison Chain teamed up with the law enforcement, community organizations and businesses to recognize the importance of neighborhoods banding together to improve safety for its residents.

National Night Out Against Crime is in its 32nd year as a national campaign to build positive local relationships between communities and law enforcement to make communities safer places to live, work and raise a family.

This year's event was celebrated in the late afternoon to accommodate the James Taylor concert at nearby Forest Hills Stadium. Community and faith-based organizations joined local businesses to present a street fair environment with dozens of tables set up to distribute information to improve the lives of community residents.

The following groups participated including City Reach Church, Mosaic City Church, Queens College, Forest Hills Jewish Center, who brought tables and chairs to the event, the city Department of Transportation, NYPD, FDNY, Maspeth Federal Savings Bank, Ridgewood Savings Bank, Community Board 6, JASA, Queens Library, United Health Care, The New York Mets, North Shore Forest Hills Hospital, Self Help, Lions Club and the city Department of Parks and Recreation. Also on hand was the Forest Hills Volunteer Ambulance Corps, who provided free hot dogs and hamburgers.

President and Chairperson of 112th Precinct Community Council Heidi Harrison Chain, displays Proclamation declaring August 4 as National Night Out Day from Borough President Melinda Katz as 112th Precinct Commanding Officer, Deputy Inspector Judith Harrison looks on. Photos By Dan Miller/DMD IMAGES

Chain distributed awards to local elected officials, as well as police officers and firefighters. Borough President Melinda Katz entertained the crowd by singing "God Bless America" and was joined by state Senators Toby Ann Stavisky and Joseph Addabbo, Assemblyman Andrew Hevesi, Councilwoman Karen Koslowitz and Queens District Attorney Richard A. Brown.

"Since 1990 crime has gone down in Forest Hills," said Stavisky.

Addabbo added, "We all benefit when the community works with the police department."

Also on hand was Deputy Inspector and Commanding Officer of the 112th Precinct Judith Harrison, who acknowledged the close relationship that exists between the Forest Hills community and the officers of the 112th Precinct.
'Orange is the New Black' actress Elizabeth Rodriguez costars in AMC's 'Fear the Walking Dead'

BY ERIK ORTIZ / NEW YORK DAILY NEWS VIVA / Tuesday, August 11, 2015, 10:19 AM

Elizabeth Rodriguez strikes fear in her family as the manipulative matriarch Aleida Diaz on the Netflix hit, "Orange Is the New Black."

But in her latest project, she's the one running scared.

The Manhattan-born actress is co-starring in AMC's spin-off of "The Walking Dead" - another zombie-infested drama titled "Fear the Walking Dead," which debuts Aug. 23.

The role requires Rodriguez, who is admittedly squeamish around blood, to partake in her fair share of guts and gore.

"When there's gore, I go into these sort of silly places" off set, says Rodriguez, 34.
Elizabeth Rodriguez attends 'Orange Is The New Black' New York Premiere at The New York Botanical Garden on June 25, 2013 in New York City. She is now costarring in AMC's 'The Walking Dead' spinoff 'Fear the Walking Dead.'

Aleida Diaz is an inmate at Litchfield Penitentiary on 'Orange is the New Black.' She is played by Elizabeth Rodriguez.

"That's the way I cope."

But to snag the part of Liza Ortiz, a nursing student, divorcée and nurturing single mom, Rodriguez not only had to fight off the competition, she had to prove to showrunner Dave Erickson and director Adam Davidson that she embodied the character.

That's because Liza was initially conceived as Caucasian, not Latina, says Rodriguez, who's of Puerto Rican descent.
Elizabeth Rodriguez as Liza in 'Fear The Walking Dead' Season 1.

"It's so amazing to not try to have people fit into something," she says. "It became about her and her relationships than whether or not she's supposed to be Latina."

Rodriguez and the other characters in the show live in Los Angeles, within the universe of "The Walking Dead" but in the early stages of the zombie apocalypse - when humanity is still coming to grips with the impending doom.

Perhaps the most recognized name in "Fear" is acclaimed actor and New Yorker Ruben Blades, who plays a barber.

"He works very, very hard, but he doesn't boast," says Rodriguez, who hadn't previously worked with the Grammy-winning musician.
Cliff Curtis as Travis, Elizabeth Rodriguez as Liza and Lorenzo James Henrie as Chris in Season 1 of 'Fear the Walking Dead.'

Rodriguez was born on the Upper East Side and went to Brandeis High School and Lehman College in the Bronx. She says she worked odd jobs, including as a hair stylist and bagel slinger, before earning small parts in TV shows such as "NYPD Blue" and "ER."

But it was with the Emmy-nominated "Orange" when Rodriguez's stock surged. And it turned out the creators of "Fear" were huge fans of the prison dramedy.

While Rodriguez shoots "Fear" in L.A., the Big Apple is still her home - one that has prepared her to venture into the nerve-racking world of the undead.

"I feel like I'm part of some zombie apocalypse just transferring from one subway to another in 90-degree heat!" she jokes.

"If you can survive that, you can survive anything."

TAGS: viva, elizabeth rodriguez, fear the walking dead
WILL SANDLER
SANDLER—Will B., age 84, of New York City and Dunewood, Fire Island, passed away on Saturday, August 8, 2015 after a long illness. It is with profound sorrow that the partners, associates and staff of Troutman Sanders mourn the passing of its former esteemed senior partner (recently retired). Will was a leader of the firm's real estate department and contributed much to its development. He was a mentor and friend to all of the attorneys with whom he came in contact. Never too busy to lend a helping hand or assume responsibility for another attorney's project. He was admired and respected by his clients whom he represented with the highest degree of professionalism, giving them the best professional and business advice during his almost 60 years as an active real estate practitioner. A 1956 graduate of Columbia Law School and a 1953 cum laude with honors graduate of Brooklyn College, Will was a dear friend of those of us at Troutman Sanders and he will be sorely and truly missed. To his wife, children and grandchildren, sister and family, we extend our heartfelt sympathies.

Troutman Sanders LLP
CHISTINE FLIESLER

Funeral Home
Levine Chapels
470 Harvard Street Brookline, MA 02446
(617) 277-8300