

# The Pioneer

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FOR ONE SECOND,  
FACEBOOK  
IS TOXIC

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REMEMBER THE WAR YEARS:  
A COLLECTION OF ALUMNI STORIES FROM WWII

MATTHEW GRATTAN (ChE '19)

A little over seventy years ago, Cooper students much like ourselves were practicing air raid drills in the basement of the Foundation Building and putting studies on hold to become soldiers and factory workers. And like the rest of the nation, The Cooper Union and its faculty also took part in the war effort. These storytellers come from various backgrounds and all sides of the war. It is not my intent to glorify warfare, but instead bring to light the lives of the brave and dutiful men and women of Cooper Union during that time of strife. The following alumni stories are excerpted from Remember the War Years by the Cooper Union Alumni.

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Not all Cooper students featured in the book lived in the United States during the war. This artist recounts the bombing of her town in Germany.

“In Würtzburg, Germany, March 16, 1945, as the sirens started wailing in the middle of the night, we carried our baby down three flights of stairs to the subterranean vaulted basement. The detonation of the bombs shook the apartment building until one bomb finally hit the ground in front of the building and forced us to crawl out of the cellar before the building collapsed. In the cellar it was pitch dark and plaster was peeling off the walls. As we climbed up, we faced an inferno of racing fire and searing heat. We pulled an old baby carriage up with us and shielded the baby’s face. In this firestorm there was total chaos: collapsing structures, thick black smoke, people screaming out of cellars and into obstructed streets. We ran across burning asphalt towards the hillside from which a medieval fortress overlooked the city.”

“The site of Würtzburg now, fifty years later, totally restored and viewed from the same hillside, cannot erase the horrific memory of hell on earth.”—Rosemarie Willmann Nesbitt (Art '53)

The positive attitude my father had about life, to make the best of a given situation, would be the one trait I admired and always tried to emulate.”—Yuriko Otani (Art '76)

Seymour Schwartz served in the Joint Intelligence Command and was involved in the preparation of invasion plans in the Pacific theater. Schwartz experienced first-hand the devastation of Nagasaki.

“What’s an atomic bomb?” we asked each other. We weren’t too sure, but it sounded especially formidable. Speculation and hope for a quick end to the war dominated that day. We hoped fervently to avoid the final invasion of the mainland that we were in the process of planning. We anticipated casualties of up

to one-third of our invasion forces. We were yet to learn more about the blast and its cataclysmic consequences. They never told us about the actual numbers of deaths, or about the radiation exposure that would cause unspeakable agony, suffering and death in the months and years to come. [...] [W]e landed at Nagasaki, the victim of history’s second atomic bomb.”

“The unearthly evidence of the bomb’s vast slaughter and demolition, the sheer scale of the conflagration, could have few parallels in the world’s history. It was an eerie spectacle—an abandoned city, but for a small occupying US Marine force. The vaporizing effect of the heat, that of a thousand suns, etched the shadows of the disintegrated dead here and there where they had worked, lived and played. Twisted piles of rubble, match sticks (so they seemed) of wood and crumbled bricks in unending heaps. Not a building could be seen in any direction, only some occasional twisted steel and the weird sight of surviving smokestacks rising like lonely needles into the sky. These had been strengthened and saved from destruction by the fusion created by the extreme radiating heat. The sweet stench of burned flesh and death was pervasive.”—Seymour Schwartz (Arch '47)



Richard Loew (Art '48), prisoner of war, Stalag 2A, Neubrandenburg. Self-portrait, pencil and toothpaste.

Richard Loew used art to express his emotions about his experiences as a POW.

“I was a nineteen year-old prisoner of war at Stalag 2A, a large POW camp in Neubrandenburg. The only art supplies available were pencil and toothpaste. I drew pictures to express the terrible feelings of be-

ing nineteen and trying to exist under those conditions.”

“Later I was among nineteen Jews segregated to a small work camp. This is when I began to sketch. My works depict how prisoners carried their worldly possessions when being evacuated, how we felt working in the woods, in the snow, from sunup to sundown, and how the German officials looked who were the overseers of the forests.”—Richard Loew (Art '48)



Woodcuts by Stan Kaplan (Art '49) after being guided through Buchenwald by former prisoners in 1945.

Stan Kaplan served in the Army in France and Germany from 1944-1945. He was deployed at the age of eighteen.

“Before I left Germany, I had the chance to visit Buchenwald, along with a group of platoon mates. Our “guides” were former prisoners, who described the gruesome conditions of the camp before liberation, and the horrendous crimes committed there. Besides mass murder, typhus and starvation took many lives, including that of Anne Frank, in one of the closing days of the war.”

“[...] Buchenwald has also never left me. The depths of human cruelty, and a degree of human suffering beyond imagination, made me aware of my duty never to forget the horrors to which I bore witness.”—Stan Kaplan (Art '49)

Numerous engineers used the skills they learned at Cooper to further the war effort.

“After Pearl Harbor, I was assigned to help General Electric develop a process for making synthetic phenol. [...] As a chemical engineer, I had expert knowledge of distillation.

This ensured my being involved in producing from petroleum, the key ingredient for synthetic rubber. [...] It’s hard to believe that the only computation aids we had in those days for designing such critical plants and processes were the slide rule and hand-cranked adding machines. A computer today would speed up such a task but would not be invented with the urgency and dedication of those engineers at war.”—Marcel Bogart (ChE '37)

“As I approached graduation, I learned that the Signal Corps was seeking electrical engineers to work in England with the British Army and RAF radar and communication equipment. [...] My work included installation, operation and maintenance of radio communication and radio navigation equipment.”

“In World War II I felt I was doing something really important and that our country was united for a great purpose. It is sad that those feelings have not been sustained because no common cause grips us; the world has moved on. But counting the pluses and minuses what is the summation? Fortunately, perhaps, the mathematics are beyond us.”—Sam Mehلمان (EE '42)



Yuriko Nakamara Otani (Art '76), 12 years old portrait and identification card from her internment in 1944, Arizona.

The following is from a Japanese-American alumna, who was incarcerated in an internment camp with her family, like many other Japanese descendants.

“My father had the most to sacrifice, losing the new business and our house. My mother was fearful we would be separated as other families had been. We were sent to a camp in Tulare, California, where each family was assigned

a room. We were fenced in by barbed wire and soldiers guarded from high towers.”

“Reflecting back on internment, I am amazed that people had aspirations for activities [...] The camp was a society functioning with dignity and without crime.”

“My parents taught us that under no circumstances should you allow others to demoralize you.

Some stories reflect the timeless memories shared at Cooper.

“When we landed in England, kind folks there treated us like royalty. I received word that my first daughter had been born, so my mates and I downed a few warm ales to celebrate my new title. I was nostalgic, though, for peanut shells and aromas of cheese and snacks at McSorley’s.”—Mel Piperno (Art '46)

“Richard Bruan, ME '44; Julian Spector, EE '49 and I were assigned to pick apples for Valley View Farms. We had two young women working with us and our job was to maneuver ladders in the tree limbs, collect all the apples carefully in baskets slung on our backs and take the apples down for collection in large boxes. We were told to leave no fruit on the trees.”

“It was difficult handling the long ladders. Naturally the three gallant Cooper students helped the young ladies move their ladders, carry their buckets, etc.”

“Several months later I graduated and was drafted and served in the US and Europe. But the young lady whom I met on a farm fifty-one years ago has been my bride forty-six years.” — Philip Messina (ChE '44)



STOP YELLING AT EACH OTHER FOR ONE SECOND

DANIEL GALPERIN (ChE '18) | PRANAV JONEJA (ME '18)

What follows is an editorial about the manner of discussion regarding the conversion of all restrooms to gender-neutral facilities. The discussion happens to be very similar to how many complicated and polarizing issues are discussed at Cooper Union. Please read it in the lens of the conversion of restrooms, but also in the foreground of the other important issues we face as a community. The authors believe there are bad community habits that require addressing. The authors also refer to themselves as “I, me” so as to reserve the use of “we, us” for the wider student body and “you” for... well you, dear reader. Each of the three sections speak to a different “you.”

Should all bathrooms be gender-neutral? It seems no one has known for the past three months. I, for one, don't know. Judging from what I'm hearing in the hallways and reading on Facebook threads as of late, everyone has an opinion now! That is truly fantastic, but many of us are appreciably late to the party, aren't we? When the idea of converting binary restrooms to gender neutral came up at the October Engineering Student Council meeting, representatives were supposed to be relaying the sentiments of their sections, but there was very little conversation... to put it lightly.

For some reason, it seems as though the majority of engineers, which is the majority of students at Cooper, just forgets to care about governance and social issues. On November 8, Joint Student Council passed a resolution calling for the conversion of all restrooms to gender-neutral restrooms. The outcry of reactionary opinions has been quite a raucous! In discussions I've had with other students, I've frequently heard the opinion that engineers' representatives didn't adequately voice the opinions of their constituencies. “Why?” you ask? People are pretty quick to say that our governance is to blame, but I challenge these people to attend ESC meetings and voice their concerns in any context that isn't strictly reactionary. Apologies if that sounds brash, but it is difficult to accept a criticism of a system from a person who has never cared enough to see how it actually functions. And therein lies a big part of this week's outcry.

“It's not all our fault!” you say. “We have governance in place that is meant to represent us, but it failed to in this case.” To that, I say: you're partly right. Governance is at fault—to some degree. I know for a fact that almost everyone actually cares, it's just that some exam is coming up and there are three problem sets and an essay due. Many of the concerns raised now should have been represented at the JSC meeting—and for that, two things should have happened: first, students should have relayed their concerns to their reps, and second, ESC reps should have been more proactive in hearing the students' opinions.

A few representatives held meetings with their sections (real life meetings!), so they were most aware of where students stand. That is actually an excellent idea, and I'm sincerely glad they made those efforts. But many of these representatives were not present at the JSC meeting where the voting happened. They didn't follow through.

Even when a representative has two days' notice of a meeting and is unable to attend, there is still something he or she can do. That is, send an alternate, someone who the rep nominates to attend a meeting and vote on their behalf and by extension, on behalf of their constituency. A representative can never allow the chance of totally failing to represent the people that elected them. Moreover, perhaps what is needed is a more sophisticated method of gauging student opinion, more sophisticated than “please respond to this email with your thoughts.”

Indeed, students are justified if they feel the process of governance did not work. However, just being mad about

the process is not enough. It needs to be followed up with a solution that the community can agree on and the administration can enact. In an email to all engineers, ESC recognizes that the topic “may not have been discussed thoroughly enough” and calls for “all reps to re-engage in productive discussion with their sections.” Bill Mea and Chris Chamberlin are “planning to bring trained facilitators to educate the campus about the issues facing trans and gender non-conforming students so that we can all enter into discussions from an educated perspective.” These are all steps we need to take together: we need to develop the language around the issue, look within ourselves to understand where exactly our opinions come from, and most of all, listen to each other.

To reiterate, we should voice our concerns and show up to ESC meetings so that we can affect change proactively, instead of attempting to yell retroactively. ESC representatives need to make a greater effort to represent their sections and more importantly, need to show up to JSC meetings. If they can't, they must send an alternate. **For us to have a say in Cooper's governance, we need to try harder.**

This week, hundreds of online comments were filled with hateful language and presumptuous overtones. People said really vicious things. It got ugly.

The way discourse is going right now, people are forced to pick one of two sides over an issue that is actually much broader and deeper. Some don't voice disagreement for fear of being perceived a certain way. Others feel compelled to take sides because that's what seems to be the dominant perspective. In truth, these are signs of a polarized discussion that is no longer worthwhile.

I understand the urge to be witty and sharp in an argument, but this shouldn't be about how fast you can respond because that is how conversations get derailed and all progress is lost. Everyone needs to be more mindful of how they address this issue and each other. When someone says something hostile or just straight up trolls, both groups immediately lose the ability to have meaningful discussion. They surrender the possibility of reaching a resolution or compromise that they claim to want so much.

Simply put: who is going to listen to you after you've just gone and said something that they interpret as completely misinformed and hostile? How can you even expect anything less in return? Sure, you may not have meant to be rude, or maybe you have some reason for why what you said isn't offensive (i.e. it's not logical to get offended by this OR you're part of a socially dominant majority so you can't be offended by this). **Your comment is followed by their rebuttal is followed by your outrage is followed by hurling insults. By now, the discussion is so far removed from the real thing.**

It's too disheartening, however, for us to simply throw up our arms in frustration. I think we can all agree that Facebook is a toxic environment for group discussion.

The mixture of the ability of a comment to get likes, the urge for rapid response and most importantly, the fact that you're not actually speaking to another human being in person, are all factors that make for a very antagonistic and unsympathetic atmosphere.

We need to foster person-to-person discussion of bathroom issues. In a broader sense, we need to create a Cooper Union that allows for the respectful consideration of opinions from all sides. This is the duty of the entire community, and above all, the duty of JSC.

Most depressing of all is the fact that the real concerns of trans and gender non-conforming students were entirely lost in the commotion. Shouldn't we be listening to the trans and gender nonconforming people who feel misgendered by binary bathrooms? That's you! People will try to speak on your behalf. They will twist the issue and bend it back over itself. They will misrepresent your arguments. Worst of all, the vast majority of them will do it inadvertently.

You are irrefutably frustrated. I couldn't possibly understand, but I think I could begin to imagine the annoyance that must be felt in having to explain for the umpteenth time why this is an important issue. **Do you really have to educate every single person in the entire school so you can go pee? Absolutely not.**

It's easy to become frustrated with, even indifferent to, the opinions of those who you feel could never understand you. What isn't easy is bringing about institutional change in a community that may not fully understand the depth of the issue at hand. When faced with this seemingly impossible task, instead of being abrasive and standoffish to people who don't yet understand you, perhaps consider how institutional change is actually brought about. Doing so begins with seeding the discussion in a way that helps to develop the language around the issue. In increasing order of escalation, it involves person-to-person discussion, workshops and community building campaigns. In between all of that, there is a need to call out injustices. It should be acknowledged this is an attempt to make a sweeping change to the status quo so it must be explained by one group in order to be understood by everyone. This is the best way to change the status quo.

It is imperative that people see eye-to-eye when enacting change. Moreover, the institutional change brought about by the gender rights movement is directly related to the level of engagement and advocacy that its proponents are willing to do. This is not to say that the GNC and transgender community has not done enough explaining. It is, however, abundantly clear that many people are still not aware and this is resulting in catastrophic miscommunications. It is also clear that the topic of converting bathrooms is deeper than what one group wants over another group. The truth is that it's multi-dimensional and all wrapped up together. What I can say with certainty is that the solution will inevitably come from within. ♦

Read this op-ed again, but this time, don't think about bathrooms and gender issues at all. Replace those thoughts with any issue you think the Cooper community faces right now. Write down your response, come talk to me. I'm here to listen. Write to pioneer@cooper.edu



JAKE POTTER (ME '16)



ALUMNI TRUSTEE ELECTIONS:  
WHY SHOULD STUDENTS CARE?

PRANAV JONEJA (ME '18)

The consent decree, an agreement brokered by the New York State Attorney General that settles last year’s lawsuit, requires that alumni must have greater representation on the Board of Trustees. To that end, the Cooper Union Alumni Association (CUAA) is holding a “Special Election 2015” with 23 alumni candidates on the ballot and a great deal of attention from the wider community. That sounds great for alumni—but why should students care?

Like most things, there’s a short answer and a long answer.

The short answer:

The inaction and indiscretions of the old Board of Trustees played a significant role in making tuition at Cooper a reality. The make up of the Board is finally being turned over right now and we need to be sure that Trustees elected now will not only have better practices, but also enact the changes necessary to return Cooper Union to free. Ultimately, students are going to be most affected by the next Board of Trustees and so students should be informed and get involved with the election of the new Trustees.

The long answer:

The Board that has been at the helm for the last ten years—the same Board the Attorney General describes as having promoted misleading financial information to the public and having failed to show effective internal control, governance and transparent communication—is being changed from within. Among the strongest clauses in the consent decree is the requirement that “all Trustees who served on the Board of Trustees on October 6, 2006 shall have their terms expire on December 7, 2016” and none of them can be reappointed ever. In simple terms, old Trustees are on their way out.

Change is happening right now. Most recently, on November 11, Board Chairman Richard Lincer announced that Cooper Union’s bylaws have been amended. In accordance with the consent decree, the new bylaws require the immediate election of two additional Alumni Trustees. This is CUAA’s Special Election 2015. One newly elected Trustee will begin his/her four-year term in December 2015 and one will begin in June 2016, but both will be elected during this Special Election. This four-year window is where Cooper Union is best poised to return to free.

What Lincer didn’t explicitly mention in the announcement is that Monica Abdallah (ChE '17) was formally appointed the title of Student Trustee on November 11, joining Jessica Marshall (EE '17) as a full Trustee with voting powers and fiduciary duties. Both Abdallah and Marshall directly represent students, but they must also communicate and engage with other Trustees. Special attention must be paid to how newly elected Trustees will get along with the student Trustees. For this reason, students can and should be aware of the Alumni Trustee Special Elections.

On November 9, the CUAA hosted a Q&A session with nineteen candidates for Alumni Trustee. Wes Rozen (Arch '05), instructor at the School of Architecture, moderated the discussion by asking the candidates specific questions. He asked the candidates about how their particular backgrounds support their candidacy and posed pointed questions about how they would deal with certain issues if they were elected.

The candidates were not shown the questions beforehand, so they were put on the spot. As such, their responses revealed their true opinions and stances. But with only sixty seconds to respond, some candidates weren’t able to dig deep enough to reach the heart of the questions asked.

*(The opinions in the latter half of this article are the author’s alone, and do not reflect the opinion of The Pioneer as a whole).*

What’s particularly worrying is that some candidates perpetuated certain ideas that are troublingly similar to opinions held by former administrators and old Trustees. That’s not to say these ideas shouldn’t be discussed or that the candidates who brought them up are ill-suited for the job necessarily. In fact, it’s all the more reason to identify what these opinions are and gain an understanding of why they may (or may not) be ‘problematic,’ for lack of a better word. Listed below are three examples, paraphrased from the candidates themselves, followed by the beginning of a considered argument:

(1) “Treat donors as investors” leading to “what can donors/investors get out of Cooper?” Cooper Union’s primary focus should always be within the community, not on those outside it. Seeking funds from the public, particularly corporations, should never take precedence over students or academic programs. Corporate investments into co-op programs or research seem like the ultimate “win-win-win” situation—but only superficially. On the surface, students gain valuable experience, the school is enriched with much-needed funds, and corporations benefit by attracting talent. In reality though, these investments don’t directly support the ideals of free education and do little to actually raise academic standards. Instead, the benefits to the corporate donor greatly outweigh everything else. (There could, however, be opportunities for professional societies and clubs to foster such corporate ties.)

(2) Cooper Union in the “education marketplace.” The marketplace is saturated with bigger, better-endowed schools that can afford amenities and facilities on large campuses. Cooper cannot and should not be among those sprawling schools, so chasing the same goals doesn’t make sense. If anything, Cooper “competes” by embodying meritocratic ideals and demonstrating a paradigm of free education.

(3) “Master Plans.” The context in which this phrase was brought up was to have a definitive plan in place for returning to free. Indeed, the aim is in the right place and making plans to achieve those goals is typi-

INTERVARSITY’S  
SYRIAN BENEFIT CONCERT

ANTHONY PASSALACQUA (ME '18)



Photo by Howie Chen (EE '16)

On November 12, the IntersVarsity Christian Fellowship ran a benefit concert to help refugees who lost their homes or were displaced in the ongoing crisis in the Middle East. IntersVarsity aimed to raise \$3,000 for Samaritan’s Purse, an international relief organization.

For those who haven’t been keeping up with global politics, refugees are leaving the Middle East en masse, many from Syria. Over 11 million people — close to half the population of Syria, have been displaced from their homes by the Islamic State of Iraq and the Levant (ISIL).

Student performances included Chinese Yo-Yo, juggling, Coopertones, a dance performance by Brenda So (EE '18) and Calvin Liu (ME '17), and a vocal rendition of “Think of Me” from *Phantom of the Opera* by Keira Li (ME '18).

IntersVarsity President Chae Jeong (ChE '16) says, “\$1,180 out of the total goal was raised through the sale of tickets and candy. Anyone willing to contribute can enter our raffle at our table in the NAB lobby, or simply donate online.” ♦



Photo by Winter Leng (ChE '18)

cally a good idea. However, “Master Plans” are unilaterally defined by a small group of people at the top—not what Cooper Union needs right now. The consent decree calls for the creation of inclusive committees, like the Free Education Committee and the Presidential Search Committee, where the entire community is directly involved in the reformed governance throughout the process. In a word, recent governance reforms mean that we finally have a chance to elect Trustees who will engage the whole community. A top-down, “Master Plan” approach undermines all of this.

The failures of former President Bharucha’s administration showed that policies guided by the ideas above are not only unrealistic but also harmful if they are enacted. These contentious opinions have been compiled here so that students can identify them clearly and hopefully respond in an informed way.

On the flip side, there are candidates who

stand for ideas more conducive to Cooper’s two most immediate missions: healing the community and returning to free. Among these candidates are those who say, “We have to get our house in order before we go about seeking multi-million dollar donations.” To that end, these candidates understand that the *real* problems are actually structural and cultural. Moreover, they will affirm that Cooper’s financial situation is a symptom of those issues.

As elected Trustees, Monica and Jessica are duty-bound to voicing the opinions and needs of students. The candidates who set their sights on the most immediate path to healing the community and directly reinstating free education will engage best with Monica and Jessica once they are elected. And together, as Student and Alumni Trustees, they will collectively have both the mandate (the support of their constituencies) and the agency (the power to vote on the BoT) to fix Cooper Union. ♦



Candidates answer questions at the CUAA Meet the Candidates event on November 9. From left to right: Adrian Jovanovic (BSE '89), Victoria Sobel (Art '13), Richard Velasquez (ME '94), and Rob Marano (EE '93). Photos provided by CUAA.



THINKING ON THE PAGE: COOPER’S HOW-TO FOR EFFECTIVE WRITING

RUCHI PATEL (ChE ‘18) | ANUSHREE SREEDHAR (ChE ‘18)

Although incredibly intelligent, Cooper Union students aren’t particularly known for their writing abilities. Inspired by their students, humanities professors Gwen Hyman and Martha Schulman came up with Thinking on the Page: A College Student’s Guide to Effective Writing, a “how-to” book published in March of this year. The 328-page guide intends to get the good ideas that “bad writers” have onto the page in a way that makes sense to them and to others.

**Schulman:** Writing is for everyone, whether or not you plan to read a literary work again after college. You have to tell people what you are doing whether you are a chef or an engineer or applying for a grant. You have to figure out what you want to say and you have to get it on a page clear enough so that some one else can read and understand it. And then you have to do without being there to explain it to them. You cannot—in a million years—do that right on the first or second try. Asking that of yourself is setting yourself up for failure. This book is here to teach you to communicate in any scenario.

**Hyman:** The theory behind the book is that most people are taught to write as if they are English teachers because they are taught by English majors.

**Schulman:** When students come and say that ‘I can’t do this,’ we just don’t believe that. You wouldn’t be here if you weren’t amazing at something, and not everyone is equally amazing in everything, but if you have a brain that works that well at one thing, then that has to be harnessed and channelled into other things. There is no mystery or magic dust. We would give you the magic dust if we had it. There’s only work and knowing how to do that work in a productive way. You guys are passionate and you work hard. No one at Cooper is a slacker.

The authors acknowledge that humanities is not why students come to Cooper. But

engineers, artists, and architects meet in the writing center and in HSS. Being able to interact with all three schools gives Hyman and Schulman a better perspective on how students think. The duo spent four years forming a theory of how to teach writing to aesthetic, visual learners, the kinds of learners one finds at Cooper.

**Hyman:** From being at Cooper for so long, we learned that you guys work together. Engineers work in groups and artists and architects do critiques, all the time! Writers tend to think ‘Oh, I am just going to go into my room and work.’ But watching you guys work gave some value to how to bring that to your work.

**Schulman:** Writing comes naturally to me and I thought that smartness was the kind of smartness that I had. I taught at Columbia before here and those people were smart in a variety of ways, but they were super well-rounded, which actually made them really boring. Then I came to Cooper, and these students were so smart in ways that I wasn’t. I would ask an architect why she wanted to look at that passage and she would look at me like I’m crazy and say ‘Because it is so spatial.’ I’m thinking ‘It was? It is? Oh, yes it is!’

“Our title has two meanings. One, you get your thinking on the page, and two, the act of writing lets you see what you are thinking”

The duo then continued to talk about the setup of their book and how it is used to outline writings.

**Shulman:** How do we unpack that knowledge? There are charts, drawings, and dialogic journals to help visualize what otherwise might seem like “Oh, this

is a dumb idea” or “This is all in my head and I actually can’t visualize it and get it on the page.” That is why the book is called Thinking on the Page. Writing is thinking and we think that until you see it, you can’t really use it or firm it up, or play with it, or do all the things you do in writing.

**Hyman:** It is no different than engineering problem sets. You can never do that work in your head. You pick up an idea or you follow a train of thinking and you see where it goes. But people are reluctant to take risks and ask questions as they would in other fields so a lot of our work is how do we get you to ask questions.

**Schulman:** That’s why there is a whole chapter called “Asking Questions: Generating Ideas,” because one of the big things we are interested in is the thinking process. With engineers, you need a huge trial of numbers as you figure out the calculus homework. You can’t just beam it onto the page. Sometimes you have to go back to middle and track it. But if you don’t have a record, you can’t do that. That is why we make a big distinction between the product and the process.

Grammar can sometimes get in the way of writing, and the book addresses this uniquely.

**Schulman:** Sometimes when you don’t know what you are trying to say, the syntax gets all weird and convoluted because you are actually in a process where you are trying to fix it. The act of unscrambling will often rearrange the pieces to make sense and some sentences might even go away. First, we talk about it as a thinking issue and then we talk about the grammar errors that suggest that you haven’t totally thought through the relationships.

**Hyman:** It is also a process-product issue. A lot of people try to fix the grammar as they are writing and doing that creates a problem for you because you can’t think and you can’t produce ideas and you can’t test things



Photo by Ruchi Patel (ChE ‘18)

out because you are so worried about the grammar.

**Schulman:** You are also wasting time! The one thing about working in a pair is that there is always some working critique. We must have fine-tune edited 100 pages that never got near this book. Don’t do what we did! You don’t need to think about grammar unless you are lost in your own sentence, and that’s a thinking issue more than a grammar issue. When you know what pieces are actually going to be in your final product, you can clean up the grammar and the relationship between idea A and idea B.

**Hyman:** Writing is hard. And if it is not hard, then you are doing it wrong.

**Schulman:** Our title actually has two meanings. One is that you get your thinking on the page. But two: the act of writing lets you see what you are thinking and lets you then generate more thought. So it is a process that keeps moving, and if you stop writing and you don’t know how to continue, then you are stuck. In theory with this book, if you are willing to use it, you should never actually stay stuck. You should say “Okay, I’m stuck right now but I’m going to go back into the text and ask these questions and do a mind map. I’m going to have a technique.” Sometimes all it takes to get unstuck is to do something. It’s to move. Those three hours between

2-5 A.M. when you are staring at your computer—that is unproductive time! That is what this is meant to end.

How did they make the book easy to understand to engineers, architects, and artists? We all see things differently...right?

**Hyman:** Even though people learn in different ways, there are more connections across the school that you perhaps don’t perceive while in school. In a way, you all are visual learners. You see the world differently than we do. This forced us to think through the project of the book and make it useful for everyone.

**Schulman:** Sometimes people get snippy about the other schools, but when you are all invested in the topic, there is suddenly like a huge knockdown fight about what the tower of hexagons in the History of Bable physically looks like. And there is an argument going on between these three different types of people who can all visualize it and know more about a hexagon than I do. And it’s the coolest. And we have that in a way that other schools don’t have. Even if it is at first reluctantly, you all come together. It’s kind of exciting for us.

**Hyman:** More or less, Cooper students have been our guinea pigs for all this time. So we know what works because we have tried it in the Writing Center and in our

classrooms. The same thing does not work with one person as it does with another. We found that in our working style, Martha and I approach things differently. I outline. If I don’t have an outline I’m lost. So we have outline options and “so you hate outlines” option.

**Schulman:** We feel very fortunate that we have this opportunity. Cooper is unique in the world. The funny thing is we come from this place and we think this book actually works for many, many people who are never going to go to Cooper or want to go to Cooper. If it turns out that you are in nursing school, or a biology major, business major, or music major, or anyone else that may have been told in school that they are not good writers (or who are decent writers only because they color within the lines but don’t necessarily feel connected to it) you will find processes that would work for you. So when you find what writer you are, we tell you how to assess your work so that you can move on to the next stage.

**Hyman:** We really believe in this stuff and it is very close to our hearts. Writing is power. It is really a big deal for us to share then and instill it and get it out in the world. We would love for more people to learn this stuff and get access to it.

Read the full article online at [pioneer.cooper.edu](http://pioneer.cooper.edu) ♦

LECTURES DO NOT WORK: STUDENT PERFORMANCE IN LECTURES

MATTHEW GRATAN (ChE ‘19)

Despite their widespread use in higher education, lectures may contribute to poor student performance. The lecture tends to present topics as unquestionable facts, quite contradictory to the thorough questioning by which the arts establishes principles. Questions and open discussion certainly do not inhibit student comprehension.

Without a strong basis of knowledge, a lecture may have little foundation to build on, leading to poor student success. The discrepancy between the ma-

terial taught and knowledge gained has been a pervasive problem as long as lecture classes have existed. The competence of both instructors and students have likely been questioned, but what about the instruction format itself?

David Hestenes, a professor of physics at Arizona State University, has pursued this problem since the late eighties. As he writes in his 1987 publication in the American Journal of Physics, “[instructors] practice in the classroom what they would never tolerate in the

laboratory. In the laboratory they are keen to understand the phenomena and critically evaluate reasonable alternative hypotheses. But their teaching is guided by unsubstantiated beliefs about students and learning which are often wrong or partial truths at best. This kind of behavior would be as disastrous in the laboratory as it is in the classroom.”

Faced with poor student performance in introductory physics courses at Arizona State, Hestenes posed questions about a system

for which many alternatives to encourage student involvement have been considered. Collectively, these methods are referred to as active learning.

A meta-analysis published in the Proceedings of the National Academy of Sciences compared science, technology, engineering, and math courses taught in traditional lecture setting to those taught with various active learning approaches. The active learning courses included aspects such as cooperative assignments and interactive classes.

The study found that students in active learning style courses performed better in some areas than traditional lecture-based classes. While active learning only increases average test scores by 6%, student failure rates are diminished 55% compared to lecture style classes. In other words, the larger benefit of active learning classes lies in the decreased rate of failure rather than the increased grades.

Fortunately, the size of Cooper Union circumvents the widespread need for

large lecture style classes. Even so, could there still be problems with instruction methods lurking beneath the surface? Such an answer would require feedback from all sides of the classroom.

Course structure merely represents one of many factors which impact student learning. The “best” learning experience may always be elusive, but improvement—like learning itself—is something to strive for. ♦



FACES OF COOPER: ALEXA STRAUTMANIS

MARY DWYER (ChE '19)

Meet Development Associate, Alexa Strautmanis: artist, advocate, and lover of The Cooper Union

The Cooper Pioneer: Where are you from?

**Alexa Strautmanis:** I'm a New Yorker. I grew up downtown, less than a mile from Cooper. Though I am originally from Canada, I moved here in the third grade with my very large family. My grandfather was an abstract expressionist, and we ended up living in his loft, where my dad grew up, because that was the only place that could hold all of us. So I grew up in Soho! I went to PS 3 in the village, the Clinton School for middle school, and then I went to Fiorello H. LaGuardia High School of Music and Art.

What are your interests?

I feel like my interests have taken a back seat because I recently moved from East Harlem to Astoria! So my interests, outside of unpacking boxes, include exploring new bike paths in the city, going to museums & galleries, traveling, reading, and sketching. I still love to sketch. I still love using those skills even though I don't necessarily need them in my day-to-day job. You have to keep drawing to be able to create at the level that makes you happy. You are your own worst critic, so the more that I continue to work at my art, the more I am able to accept the level that is my best.

You seem to have a very art-based history, could you expand upon that?

Yes, I feel very lucky to have been able to go to school for art. Often, parents want to push their kids into something that is more career-oriented than art seems, but my parents allowed me to do what makes me happy. I feel very grateful to have had the freedom to explore that, and this is the exact city in which to do it.

I went to college here in Manhattan at the School of Visual Arts where I got my Bachelor's in Fine Arts, majoring in painting with an unofficial minor in critical writing. Writing was something I discovered I really enjoyed in college. As an art student, I would have assignments to go to museums and galleries and write reviews — something most of my classmates abhorred — but I loved it! I loved being able to go somewhere, find someone's creative vision, and share my take own onit through writing.

How did your education affect your career path?

Well, I did not graduate from college and become a renaissance oil painter!

After working for a couple of artists and doing copy work for them, I was able to travel and really focus on writing, which was a skill I wanted to build upon after school. I ended up working for a creative consultancy, and I became the right-hand of the company. It was really exciting; I was able to work with artists and entrepreneurs who were really passionate about what they were doing. And while it was not art focused, it was still interesting work with creative people who wanted to be the best at what they did. But I soon realized that the industry just wasn't for me. I loved the work that I was doing, but my heart was not in it. I wanted to make a bigger difference.

And then, Cooper?

Exactly! I saw the job listing for Cooper just over a year ago — and I thought: this is awesome! I want to come here, I want to learn what it's about, I want to be a part of this. I actually applied to Cooper after high school as an art student, and I did not make the cut. But after going to the art shows, and seeing what freshmen students produce, I understood. I would not have accepted me at 17 either! It is a different caliber here. Last year, I went to the 'Boroughbreds' art show, which, if I can remember correctly, showcased the early work of freshman and sophomore students, and I was blown away. The work was beyond anything I had seen even as a senior artist at SVA.

What differentiates, in your opinion, the caliber of two pieces of art?

I guess it's the thought behind it. Technical skill is something you can hone with practice, but if a piece is not thought-provoking, if the concept is not original, if it is based on a hollow idea, then it feels of lesser quality than a piece that makes you think of something in a new way. The inspiration that goes into each piece of artwork, I feel, can really dictate one's reaction to it. By understanding the mind and the method of an artist, you can really grow to appreciate and understand his or her work at the next level.

What does your current position at Cooper entail?

To best explain my role as Development Associate, let me first explain the Office of Development and Alumni Affairs. Our office exists to further the entire institution as a whole. We connect entities like organizations, corporations and individuals (both internally and externally of our Cooper community), with our alumni, our students and departments within the schools to best serve and



Photo by Sage Gu (ChE '19)

benefit the institution each year. I work with both the Alumni Affairs team and the Development team, with annual giving being one of my main focuses.

Last year I worked with the senior council, and I am doing the same this year. We all work together on the senior bash, and senior gift [and right now artists and architects are under-represented so we could use your help!]. I am excited to work with the seniors, many of whom I've met in the past year and they are really passionate, involved, and enthusiastic individuals.

My role recently just shifted from assistant to associate, so I will work more closely with alumni this year. Specifically, I am working with volunteers for engagements events, one of which is Reunion Weekend (June 3 - 5, 2016). This year's is expected to be the largest reunion yet, and I want to help ensure a high turnout from all participating classes — so no alumni miss out on what always proves to be a fun and celebratory event.

I also work with alumni affinity groups, and we just recently started one for entrepreneurs. Cooper is in a real need for a solid alumni group for students and faculty interested in entrepreneurship to connect and help one another to grow and prosper. We have a very driven group of alumni and faculty pioneering this project, and I see it being vital and successful, even in these early stages.

This is what we are here to do. If someone wants to contribute, or connect; with alumni, with students or staff, with Cooper, we are here to reach out and form those connections, and do what we can so this institution can continue to flourish year after year.

What do you love most about your job?

I love how inspiring the students are. Cooper is a special place; amazing things happen here. It was a tangible moment when I started out and I was invited to the Invention Factory lecture and reception. I was new and still learning, so I was solely attending as an observer. But immediately, I was overwhelmed with awe by what these students were doing — it was so inspiring to me, and it stuck.

I really try to take that feeling to work with me: the way that I see students in Invention Factory, exhibitions, etc. talk about their work. Cooper students look at the world and say how 'can I improve this, how can I make this more functional, or more beautiful?' — they take what they have in front of them, maybe confront something that they cannot see, and they find a solution creatively, academically, or socially to address the problem at hand. Anything is possible to a Cooper student — I am so aware of that; I see it every day. So I come to work here at Cooper each day and I try to do just that; anything great we can do, we should do. Just as Cooper students say, "if it is the right thing to do and it will benefit society" I say, if it is the right thing to do and it will benefit the school — let's do it!

Where do you see yourself going from here?

I just started a new chapter here, so my sites are on the upcoming year and the tasks at hand. It's really advantageous to start out a new semester because I can focus on improving upon last year's programs, events and initiatives to be better than they ever were before - constantly striving to improve. This is also is a very important time at Co-

per, and I knew that during the time when I came on board as well. A clear shift and transition is happening, in a place that has seen more than its share of transitions in recent years; a real weight has been lifted with the resolution of the lawsuit, and with that good news to share we are looking forward to what is next to come. We're especially able to better, and more openly communicate now— especially with the CUAA in particular — so it has been a really positive working environment as we share knowledge and rebuild faith and trust within the Cooper community.

What advice would you give Cooper students?

Take advantage of the amazing resources that are offered here on campus: career fairs, mock interview nights, networking & volunteer opportunities, even after commencement; we have programs in place to help connect graduates with career opportunities and to other alumni in their fields. At Cooper, we really want to engage with our community in these aspects because it is so important that we take care of our students while they are here and continue to nurture them after they graduate.

Anything else you would like to share?

I would like to briefly circle back to my work with the Annual Fund. Now that a 'Free Education Commit-

tee' will be created and put in place at Cooper, it is also a goal of mine to grow participation this year.. This means increasing the number of supporters that Cooper has, outside of fundraising totals. [Some background on Annual Fund gifts: All dollars raised are unrestricted, meaning they can be put to immediate and valuable use where funds are most needed within any of the respective schools.] This is vital because each and every student at Cooper directly benefits from the vital resources on campus that these gifts help to provide.

Growing community participation — even slightly — also greatly helps the likelihood of Cooper being selected to receive large gifts and grants from major donors and corporations outside of the institution. Organizations want to support institutions that have the support of their community.

It is something I am very passionate about, because Cooper was built on a foundation of philanthropy, so it is prevalent that the generosity of individuals matters a great deal to the continuing success The Cooper Union. For these reasons (and for all of the other reasons I've mentioned as well), I am also very happy and proud to support Cooper's amazing students each year. ♦



FACES OF COOPER: DARNELL HAYZE, SECURITY GUARD

BRENDA SO (EE '18)

The Cooper Pioneer:  
Where are you from?

**Darnell Hayze:** I am born and raised in Brooklyn, New York. I have been here for 31 years. I love New York and I treat it as my city and my home.

How long have you been at Cooper?

I started working at Cooper two weeks ago. I like the position I got here, working at the alumni terrace (8th floor of the NAB). When it's open, I make sure everything is alright and people can come in and enjoy. The terrace also has a surprisingly nice view. I like it a lot.

When I got here, my boss assigned me to the alumni terrace, so I am trying it out, see how I like it first. People who know me will know that I am always curious, so I always greet people, say hi, and talk to them. Being friendly is also what makes me qualified for the position.

Where did you work before you came to Cooper?

I have always been a security guard. Before I came here,

I worked at major corporate events and nightclubs. I actually worked at the Yankee Stadium this past summer. I worked at the clubhouse with the superstars, top-notch baseball players such as Alex Rodriguez. My most memorable event was the New Year's Event at the Empire Hotel Rooftop. A lot of people showed up, and the glitter ball went up; it was a beautiful night.

I actually have two jobs right now, Cooper and CVS. I work 12 hours here at Cooper, and I work at graveyard shifts in CVS. Graveyard shift means 11pm to 6am in the morning. It's not that stressful in CVS; there are not a lot of people in comparison to the morning and afternoon shifts.

You mentioned that in your work, you meet a lot of people. Have you ever met people that are hard to deal with?

All the time. Especially in nightclubs, you got a lot of those people. Like when someone is drunk, the situation can get really messy.

People talk and they don't really comprehend what

they are saying, so I escort those people to their cars, give them some water and make sure they are safe. When people start a conflict in a nightclub, the cause is usually really petty. And I try to defuse the situation as quickly as possible.

One thing I learnt is to keep my composure. Back in the day, if someone starts fighting in the club, the bouncer would just throw them out. But now, you can't do that.

Nowadays you try talking, try to defuse the situation. When I first started, I didn't know how to handle things. I couldn't control certain situations, but now I have learnt how to deal with them. If you cannot control the situation, like when the person has a weapon, you need the police to get involved.

What advice would you give to Cooper students?

I went to school myself. I understand what it means to work hard and what it means to go to school. When I went to school, I had to balance a job and studying, and it was not easy. I got my Associate degree

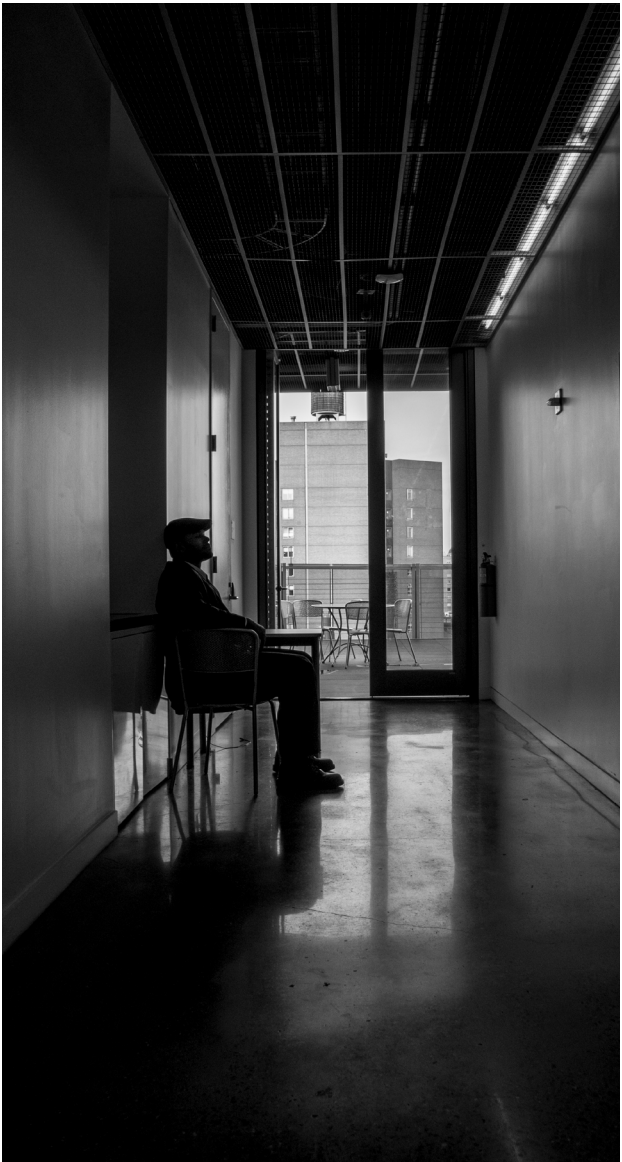
from Apex Technical School to study cars, to study engineering, and I was bouncing at nightclubs at the time, so it's not easy. I am thinking of going back to school, too.

In terms of advice, if you know what you want, go get it. Don't stop, do what you need to do and I hope you guys succeed in whatever you want to do. So work hard, and know that it's going to pay off!

What are your goals in life?

A goal that I am trying to achieve is to enter a body building competition. I work out a lot. And if I win the competition, I could get a contract as a professional body builder. I would be earning \$20,000 a week. So I work out, I eat right. A lot of people think that guards don't have a life, but this is our own life. You'd be surprise what people do behind closed doors—maybe someone is a small time actor, but you'd never know!

Darnell keeps the Alumni Terrace open everyday from 12-6pm. Come say hi! ♦



Darnell at the Alumni Terrace; Photo by Winter Leng (ChE '18).

CLASS REGISTRATION TIPS

MATTHEW GRATTAN (ChE '19) | ROBERT GODKIN (ChE '18)

With spring semester approaching, The Pioneer asked upperclassmen for tips about class registration.

“Know your math professors, and pick your HSS professors wisely. As a MechE, there's not much you have to pick in your first year, but it's important to fulfill all of the basic requirements.” – Andy Tong (ME '18)

“Don't rush with your EE classes. Maybe hold back on Programming Languages, or skip it, and take Data Structures & Algorithms instead. Obviously, DLD comes first, but once you have taken that, you can really look at all your options.” – Tom Koch (EE '18)

“Register with your section and make life easier for everyone.” – Dan Fagan (CE '16)

“In the succinct words of Cataldo: ‘Do it now.’ Registration is literally staring at your computer for 20 powerless minutes as the page refreshes to see if your future is doomed. At this point for us (juniors) there aren't many classes that'll

fill too quickly anymore that we particularly want except for that humanities class about food with an infinite wait list.” – Jean-D Bonnet (CE '17)

“As a ChemE, try to take Professor Topper's Physical Principles of Chemistry, but if you can't it's not the end of the world. Taking the more rigorous math classes will help you in your ChemE classes later.” – Daniel Galperin (ChE '18)

“It depends on how much time you may think you'll have. If you've already taken DLD, get ahead on the required classes, so Computer Architecture for example. Try to figure out your EE track earlier on.” – Denis Shishkov (EE '17)

“For MechEs, look ahead at the undergrad track. There's many class options, and it's important to understand vectors and forces to the highest level to help you later on. Working on your own project is really fun too even if it has nothing to do with school work. In general, the MechE curriculum focuses on designs, so it's important to work on your project and presentation skills often.” – Arven Rulona, Troy Singletary (ME '16)

“Don't jump the gun and take too many classes even after your first semester. If you're interested in bio, take a bio elective—if not, don't take a bio elective. There's management elec-

tives, too, but remember to focus on your core classes first. There's always time to take electives, but if you don't build a solid foundation now, it might be too late later.” – Chris Panebianco (ChE '16)

“It's honestly a doozy. There's a pretty diverse selection [of classes], none that necessarily should be taken, but professor style and approach are really important in selection. Since a lot of classes, even those titled under a particular genre or art making, are essentially open studios, it's pretty focused on what student want to see in class as far as critique style, class dynamic, class structure, etc. There's also a lot of technique-based classes that focus on particular skills.” – Emily Adamo (Art '17)

“It's worth it. The architecture school likes to pose itself as something indescribably intimidating and hard, which it is. But the teachers, professors, and mentors here are supportive and know what they're doing, knowing the ideals of what ‘education’ should be. The things you learn here far out-weigh the mental and physical strain that come with our study. Pretty much, you'll have the highest of highs and the lowest of lows here, but you're not alone.” – Arnauld Sylvain (Arch '19)

♦

SUNSHINE AND PIZZA



Photo by Winter Leng (ChE '18)

On November 4, Acting President Bill Mea invited everyone to enjoy pizza and sunshine on what “may be the last nice day before the cold sets in.” How many pizzas? According to an Bill Mea wrote to his cabinet, “[I] figure 8 slices per pizza and two slices per person, maybe three. So let's say a pizza feeds three people. We might need 200 pizzas to feed 600 people. Would we get 600 people? Can we fit 600 people?”



Winter enjoys a slice of sunshine. Photo by Yifei Simon Shao (ME '19).



EXCHANGE STUDENTS TELL US WHAT WE ALREADY KNOW...PLUS MORE

MONICA CHEN (ME ‘18)



Photo by Winter Leng (ChE ‘18)

Every semester, Cooper welcomes foreign exchange students to experience the culture of our unique community while living in the heart of the East Village. This year, students from Spain, India, Germany, and elsewhere traveled to New York to continue their studies in engineering and art. This interview features two students, Manuel (Manu) Manso Morato (CE ‘17) and Shrikant Chavare (ChE ‘16).

**TCP: What did you expect of the Cooper experience before you arrived?**

**Shrikant:** One of my ma-

jor concerns before coming was that the other students who came before me were in a group of four so even if they had any problems or were feeling lonely, they could figure it out amongst themselves. This was a concern because I was the only one coming from India. So far, I haven’t faced any problems and overall, the experience is better than I had expected.

**Manu:** I thought the people here were going to be more into studying and not as much into having a social life. Cooper Union chooses the most clever individu-

als from all over America, so I wasn’t expecting them to be as cool as they are.

**What made you choose Cooper?**

**M:** My university has a lot of agreements with other universities, but I did a bit of research on all the colleges I could apply to and Cooper Union was the biggest name on the list. Also, as a Spaniard, living in New York City was a unique opportunity; I could probably only have the chance of living in the middle of the East Village once in my life so I couldn’t say no to the opportunity. As soon as I got accepted, I thought, “Okay, I’m going to Cooper.”

**How does Cooper compare to your colleges back home?**

**M:** Burgos, my college in Spain, has 9,000 students and the engineering section is the largest one, so it’s very different though we do have very small classes right now because of the crisis in

Spain. Also, our buildings and laboratories are larger, but obviously you can’t ask for that if you’re living here in the city. In Spain, I live in a very small town of 200,000, much smaller than Manhattan!

**S:** At IIT Bombay, there are at least 60 people in each chemical engineering class and for the common engineering classes, the number of students in each class sometimes goes up to 120 or 150. Here, there’s a maximum of 25.

Also, the exams here are less competitive than the ones at my university. After the first month of lectures at IIT Bombay, professors are required to give at least 2 or 3 exams every 2 weeks. In every class, there are several short exams, 1 midterm exam, and 1 final exam as compared to 1 midterm and 1 final exam in the classes here.

**Best part of your Cooper experience so far?**

**S:** The best part may also be the worst part because Cooper being a small school, you know everyone studying here. It’s not like you

feel alienated and even if you meet someone new, you end up seeing them quite often within a couple of weeks and end up becoming friends. You basically know everyone when you go to a small school, so if you have some problems, you know who to ask for help.

**M:** The people and the location. The people were really open to me when I arrived. There haven’t been many foreign exchange students so that was a big shock for my classmates. As for NYC, there’s nothing bad I can say about it. I’m living in a wonderful location and I wish I could stay here longer for another semester.

**Worst part of your experience?**

**M:** Probably the price of the city. In the city, all the prices are all very expensive, including the rent. That’s probably the worst part—having to think about how to spend money when you’re here. I feel like Americans earn more money; in America you’re able to earn double what you could earn in Spain, but the living expenses are also higher in New York.

**S:** My university has 16 dorms, a football field, cricket field, a hockey field, and a huge residential area and a lake. There is around 800 acres of campus so even if you’re not in school, you can go outside and hang around. Here, if you want to play sports, you need to walk for 15 minutes to get anywhere.

**What’s the most exciting thing you’ve done in the States?**

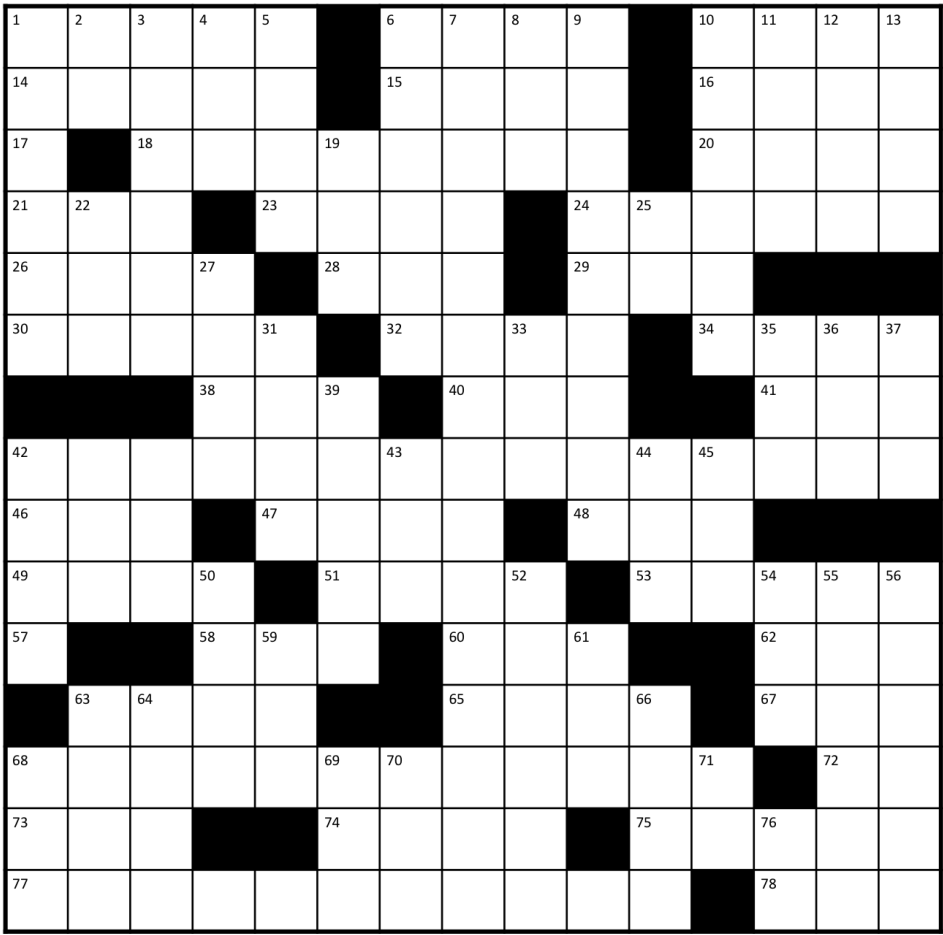
**M:** When I arrived here, I spent 15 days in Fort Lauderdale, Florida, chilling on the beach. Since I’ve started school, I’ve visited all of NYC and Niagara Falls with some of my classmates. This weekend, I went to Indianapolis, which was a 12-hour journey by bus. I stayed for half a day then drove up north to Michigan, where I stayed in a cabin for three days without electricity. I plan on visiting Tom’s River in New Jersey during Thanksgiving. After classes end, I plan on visiting Washington D.C., Boston, and then Florida again before going back to Spain. ♦

Read the full article online at [pioneer.cooper.edu](http://pioneer.cooper.edu). ♦

CROSSWORD PUZZLE

TOBY STEIN (CE ‘18)

Stuck on a question but you don’t want to succumb to the internet, find me in the hallways and ambush me for a better clue. Too easy? Too hard? Too funny? Not funny at all? Think you could do better? Let us know at [pioneer@cooper.edu](mailto:pioneer@cooper.edu). Answers can be found online at [pioneer.cooper.edu](http://pioneer.cooper.edu)



- Across**  
1: Cooper athletic mascot  
6: Program fighting HIV  
10: Faxed  
14: Star Wars furries  
15: Elementary particle  
16: Alibaba search engine  
17: Top grade  
18: “T”ank Yuu”  
20: 133.3 Pa  
21: Reddit Learning  
23: Not on time, but \_\_\_\_  
24: Al Pacino *Dog Day* exclamation  
26: Infamous garden  
28: Classic base

- 29: Before willikers  
30: Jeans  
32: Much better than pin-hole version, abbr.  
34: Jazzy refrain  
38: A = {1,2,3,4}  
40: Retinal House  
41: Look  
42: Hillary’s nightmare  
46: 2015 Oscar, foreign  
47: 1974 credit law  
48: Flight board abbr.  
49: Jumped  
51: Alejandro Ghersi  
53: 10 Amps  
57: Chicago metro

- 58: Charged particle  
60: Pale Indians  
62: Chimp raised by humans, 1930  
63: Throw bones  
65: JD’s bromance partner  
67: Frequently, poetically  
68: Lab answers still \_\_\_\_  
72: Engineering test  
73: 2015 Oscar, foreign  
74: Straddling  
75: Beaming  
77: Us  
78: Tolkien forest giant

- Down**  
1: Irrate  
2: Signature  
3: Fleeced  
4: Hateful hooded group  
5: Columbia Uni. online services  
6: Receded  
7: Contrasting military strategies  
8: From \_\_\_\_ Z  
9: Give to Grel, Spanish  
10: Has 2nd touch in volleyball  
11: Epsilon, Tao, Omega, Imaginary  
12: DEA agent  
13: One-third of WWII film  
19: Scoundrel  
22: Chemical Suffix  
25: Tellurium  
27: Standards and Tech.  
31: Hardly  
33: Caustic acid neutralizer  
35: Hobby, lobby suffix  
36: Charge  
37: Satiated  
39: Tropical bird Span.  
42: Pickle  
43: Neighbor of Alg.  
44: Flight board abbr.  
45: Fare carrier  
50: Clock sound  
52: Grads  
54: Time past  
55: Bran or blueberry  
56: Wolf’s Law degree  
59: Best dictionary  
61: Pitching stat  
63: Carpenter’s groove  
64: UN flight agency  
66: 4 down, last word  
68: Long Island City  
69: Continent abbrv.  
70: PC player  
71: Gibson  
76: Concerning

I’M WILD ABOUT BORING THINGS

VANESSA RITZ (ART ‘18)

I’d like to control the weather. If I were able to do so, I wouldn’t go crazy and you probably wouldn’t even know that I took over.

Right now the weather tries to control me but I refuse to succumb.

I became infatuated with this power while walking home from school after it had rained. I realized that I walked around the corner that I normally walk on because of a puddle. The power of this puddle to determine how I walked home bothered me. This happened over a year ago and I still think about it. After I found myself stepping around my normal path, I emailed this revelation to myself for a permanent documentation. This was the moment I decided the weather would not control me. I would always be one step ahead.

How to be ahead of the weather? Proper preparation. One must check the weather daily. When I have moments to kill on my phone, I check the weather. When I wake up, I check the weather. When I go to bed, I check the weather.

Stay informed. Defy its control. If it is going to rain, don’t let the weather stop daily routines or postpone plans. Rain dates are a bitch, so stick to the initial plan. Be as powerful as the weather. Invest in rain boots, snow boots, a tent for events, a rain jacket, an umbrella, and a headlight for blackouts.

There are two approaches to confront the weather.

**1. Ignore it.** Simple. Wear jackets when you want to, wear shorts in the snow, walk through puddles in sandals, drink hot coffee in august, eat Mexican food in the sun.

**2. Mock it.** Plan in advance. This is all about efficiency. You become so overtly prepared for the weather that it doesn’t matter what is happening outside because your gear leaves you virtually unaffected.

Personally, I like to ignore it. I like to have ice cream in the winter and hot tea in the summer. So, moral of the story: *ignore the fucking puddle.* ♦

