

The Pioneer

Editor-in-Chief
Marcus Michelen (BSE '14)
Asst. Editor-in-Chief
Saimon Sharif (CHE '15)
Copy Editor
Joseph T. Colonel (EE '15)
Web Designers
Taehyun Park (EE '15)
Advisor
Gwen Hyman

Copy Editor
Joseph T. Colonel (EE '15)
Writers
Tensae Andargachew (ME '15)
Yara Elborolosy (CE '14)
Hindi Kornbluth (CHE '13)
Matthew Lee (ME '15)
Jake Potter (ME '16)
Caroline Yu (EE '15)
Photographer
Jenna Lee (ME '15)

DECEMBER 10, 2012
Volume 92, Issue #5

A FREE INSTITUTION

TENSAE ANDARGACHEW (ME '15)

On June 17, 1858, Abraham Lincoln made the argument that “a house divided against itself cannot stand”, arguing with passion that all people must be free. Two years later, he would give a speech at Cooper Union, where he spoke with passion again, dedicated to the cause of a free man, at a school dedicated to a free education.

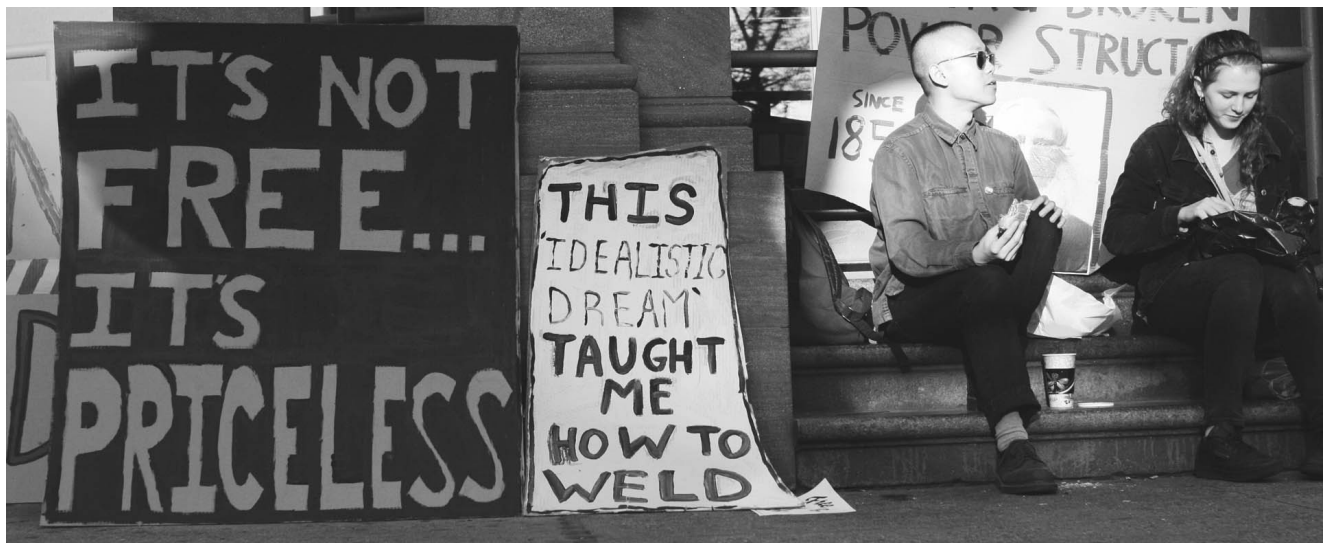
Fast forward 150 years: Cooper Union is a school in torpor, financially at first, putting in jeopardy the free school.

A new president, President Jamshed Bharucha comes in to solve the crisis at hand, and exposes all the details to everyone. The Cooper community finds out that Cooper is running on massive deficits and has a good deal of debt, therefore something must be done to keep the institution solvent. Immediately, committees were put together, taxes were released, and talks between all sorts of people in the Cooper community were held.

After listening to the talks, reading the reports and discussing options – one fact was revealed: tuition was on the table as a last resort. Time passed by, but the situation appeared to be growing more dire, which has led to tense relations between some in the community and a series of protests.

The latest in the series of protests began on Monday, December 3 – students, faculty, alumni and general members of the Cooper community attended in an effort to express their strong opposition to a tuition based plan, with red banners flowing and posters reading “Debtaster Zone” and “Free”.

“Students, faculty, alumni and general members of the Cooper Community attended a protest in an effort to express their strong opposition to a tuition based plan”



In the communiqué distributed, there are three demands made by the protestors: a commitment from administrators, affirming that they are committed to a free education; reforms in the Board of Trustees proceedings – in particular, a call for more transparency; and lastly, the resignation of President Bharucha.

The first two points were elaborated on in the communiqué. However, an explanation as to why the protestors demanded Bharucha’s resignation can be found elsewhere: in a leaflet distributed at the protest, written by Casey Gollan, a senior art student enrolled here at Cooper.

It is suggested in this leaflet that the president came in with an agenda, which is in direct conflict with the mission of Peter Cooper – symbolized throughout the day on Monday with carts clashing into each other, into cardboard tombstones, symbolic of Peter Cooper.

This leaflet asserted that the agenda that the president supposedly holds has not been forfeited in any way, and further went on to claim that the president uses boilerplate and the police to solve issues.

This view, in particular that the president has had an agenda in store is not unique to only Casey, but was shared by many at the protest, though not everyone. Mia Eaton, the wife of a tenured art professor, also shared that view, and believed that tuition is selling Cooper’s reputation, redefining its mission, and for this reason, it should be closed.

She explained to me how the students who barricaded themselves in the Peter Cooper Suite (or referred to by many in the media as the Clock Tower), were (and still are) risking everything – arrest and expulsion being the biggest two – for this cause.

While the protestors, whether in the suite or not, continue to protest things that might be voted on, the general plans for the future are vague – all that is really understood is that the solution must not include any tuition. Asher Mones, an art student who attended the protest, said that it’s really up to the administration, those committed to the mission of no tuition are who should decide. Some distributed copies of The Way Forward and bullet points as to what possibly could be done in an effort to solve it, but an official comprehensive solution was not endorsed.

Tuesday, President Bharucha addressed the protestors while ensnared by them, in the lobby of 41 Cooper Square. He repeated all the facts, told them what was going on in current talks with everyone, and then offered the protestors to join him in the Great Hall to discuss matters further. A little later, a group of students had come to praise Bharucha, affirming that they believed that he was committed to the school and its mission. This prompted a debate between the students protesting and the students praising Bharucha.

The Cooper community is in for some more talks, debates, forms and forums throughout this ongoing the crisis. Details, opinions and plans will eventually be made clear with the vehicle of free speech. The atmosphere at Cooper, which has been set up to debate ideas and not to debase individuals, to verify facts before vilifying opinions, promotes free speech, and more generally freedom. And it has done so ever since the days of Lincoln. With the freedom to express ideas and the ingenuity of the community and everyone somewhat ready to band together and embark on a road to solve Cooper’s crisis, the best way forward will probably be found. ♦





OUT ON A LIMB WHERE THERE SHOULD BE A BRIDGE

JOSEPH COLONEL (EE ‘15)

“That’s a valid argument, that’s not what they care about. That’s not how they think.”

“We can’t have a conversation like that. They get heated.”

“Look at them, how they can get away with doing that for three days.”

“It makes me mad, I have so much work to do. They’re not doing anything. #artists #assholes”

These are a few of the comments I’ve heard made by students in the New Academic Building regarding the people protesting inside the Peter Cooper Suite and the people
(Continued Below)

The time for sarcasm and jokes in legitimate discussion has long since passed. Whether or not it ever existed I leave up to you. We as students owe it to one another to uphold a policy of honesty and transparency in conversation, both face to face and online, should we expect any sort of exchange of ideas or collaboration to exist between students.

Shouting across the lobby of the New Academic Building at one another or putting up posters that mocking claim that we can summon the ghost of Peter Cooper who will shit out enough money to solve Cooper’s financial troubles should we wish hard enough do nothing but strengthen the bi-partisan trend overtaking the Art and Engineering schools.

As said by Kurt Vonnegut, “We are what we pretend to be, so we must be careful who we pretend to be.”

Healing this apparent divide between the Art and Engineering schools begins with the recognition that anyone you talk to or talk about is a human.

Like you, these people were conceived in some manner, and have spent the entirety of their lives on or near the surface of the Earth, where they have grown up and accumulated life experiences that have shaped them into the people they are today. Referring to the people in the Peter Cooper Suite and those supporting them outside the Foundation Building as “the artists” is not only fallacious but also

and its place. By no means should any be belittled; these differences should be celebrated and explored by each party individually. Some may see how a wider scope during the creative process can produce beautiful results.

I applaud the action taken by Unify Cooper Union, a group created by Rob Brumer (ChE ‘14) and dedicated specifically to generating interschool dialogue and collaboration. The group hosted an event named “Common Ground,” held on December 6th. The event was created by Brumer and hosted by Caleb Wang (EE ‘13). The Facebook page for the event states:

“As artists, architects and engineers, we all love our school. When things get heated it is hard to remember [what] we all have that in common. This event is about trying to understand each others’ perspectives by getting to know one another and why we are passionate about what we do.

“We will do this by splitting up into small groups of 5 or 6, ideally with at least one person from each school in each group. After a brief introduction from representatives from all three schools, the groups will go through the studios, classrooms, and labs to collaborate about the engineering, art, and architecture projects that we are all working on.”



supporting them in front of the Foundation Building. That these comments have been lifted out of context is irrelevant. To a passerby these statements seem inflammatory, divisive, and ignorant. It is surprising and upsetting to hear such words come out of the mouths of students attending one of the top undergraduate engineering colleges in the country. It is disturbing and disappointing to hear these words spoken by my colleagues and peers.

These types of statements spewed from “both sides of the issue” embody a more startling trend I have noticed since entering the Cooper Union last fall: engineering students disregarding the opinions and intellect of art students. Discourse and collaboration between the Art, Architecture, and Engineering schools cannot happen until students abandon this type of rhetoric and attempt to uphold mutual respect and understanding for their peers.

dehumanizing. As one person told me, “We shouldn’t let our interests define us. I’m a Cooper Union student before I am a Cooper Union Art Student.”

On the topic of Cooper’s Future, that same person went on to say, “It would be unfair to expect everyone to think the same.” In a time where the future of our institution is uncertain, it is ludicrous to believe that everyone will come to the same conclusion as to how to protect it. Respect these opinions, for that is all they are: opinions.

Engineers, artists, and architects are all creators based around certain guiding principles. Engineers typically design with practicality and efficiency in mind. Some artists may create in the name of aesthetics or provocation. Some architects design in the name of progress. It must be recognized by everyone that each of these disciplines has its merits

The event received nothing but enthusiasm and praise from those that attended. Talks of student-run courses and lectures to be held for students from all three schools have been met with the same response. I hope that this movement pans out, and that it is not simply a moment of clarity to be lost among the commotion of daily Cooper life.

Everyone has the well being of the Cooper Union at the bottom of their hearts and the forefronts of their minds, of that I am certain. Hopefully a revised rhetoric will allow more fruitful dialogue to exist between all members of the Cooper community. ♦

If you’d like to further discuss this issue or this op-ed, email colone@cooper.edu



COOPER’S HUR- RICANE SANDY RE- SPONSE TEAM

SEAN CUSACK

FORWARD BY YARA ELBOROLOS (CE ‘14)

Hurricane Sandy affected people in seven different countries and in twenty-four states across the U.S.A, killing two hundred and fifty three people and costing at least 65.6 billion dollars, 63 billion being in the U.S. alone. 41 Cooper Square lost power initially and tried to use a back-up generator to compensate but the back-up generator failed by the next morning. Inspirational stories of people helping out those devastated by the storms could be found in every newspaper and now, the Pioneer will thank Cooper’s own personal heroes. This article was kindly provided to us by alumnus and adjunct professor Sean Cusack.

In the dark of the power outage, with no sign of the early morning light outside, figures are dragging industrial equipment up the stairs. It’s the Thursday after Superstorm Sandy, and the 1-Megawatt diesel backup generator had failed. Jeff Hakner (EE ‘91), and Jody Grapes, Director of Facilities, are carrying a smaller spare gasoline-powered generator up eight flights of stairs to the Alumni Terrace and within reach of the computers that need electricity. They and a small group of staff and engineers arrived before the police-enforced 6 am curfew

“Jeff Hakner and Jody Grapes carried a spare gasoline-powered generator up eight flights of stairs”

to check critical systems, repair any damage that might have occurred, and prepare the campus for the next few days.

A week earlier, with forewarning about the storm, the systems seemed to work according to plan. Cooper was ready with a day’s diesel in its generator, in case of temporary blackout. The fuel could be stretched if additional facilities were shut down. But sometimes, fate intervenes.

The generator kept up with demand for eight hours during the blackout, then suffered a failure due to low oil pressure and went dark. The computer systems were abruptly shut off in the middle of operation, and with the computers down, so went cooper.edu and email.

Administration reacted and called in tech specialists to repair the generator, but soon discovered the problem went beyond the low oil pressure. The local team didn’t have the parts necessary to discern or repair the problem. A new plan was hatched on Wednesday night by President Bharucha, TC Westcott, Jody Grapes, and

Bob Hopkins to bring up critical systems and to restore internet and email service and the website if possible.

Back on the 8th floor on Thursday, the gasoline-powered generator that is usually only utilized for small outdoor lighting and power tools is only 3500W, barely enough to run a few of the servers behind the computer center. Jody, his team, and Jeff get it running outside on the Terrace – the generator cannot run indoors due to the risk of carbon monoxide.

“A new plan was hatched on Wednesday night by President Bharucha, TC Westcott, Jody Grapes, and Bob Hopkins”

Meanwhile, on the 10th floor, engineers continue to work on the diesel generator but even the service tech can’t get it up and running; the main repair team from Detroit Diesel will have to come in. They won’t arrive in time during this blackout.

Jeff splices custom power extension cords and runs wires from the Terrace into the server room behind the Computer Center. Each server takes almost 1000W, so there’s not much room for error keeping basic services alive. After removing the redundant backup power systems and pulling line cards in the servers to reduce the amperage draw, email and internet come up.

Jeff is able to fix the hard power-off software issues. For now everything is running on the gasoline, but there is not enough fuel to last for very long. Unfortunately, the natural-gas powered Co-Gen plants in both buildings – though they work properly – can only share load on existing ConEd power lines, and with the ConEd lines

“When the lights all turn on again in East Village, Jeff Hakner is able to bring the Cooper Union systems back up remotely from his home”

dark, the Co-Gen Plants cannot provide power. With some modification they could be independent but that’s something to plan for another time.

As the gasoline starts to run out, the team looks for any nearby source. But just like everyone else in Manhattan, they find it impossible to access any. This time, knowing that another outage is coming, Jeff properly shuts down all the systems so they will be easy to reboot when the power is up. Cooper goes dark gently. Come Friday morning, there is still no gasoline to be found and Jeff Hakner is driving through Connecticut searching for some when he gets the call that ConEd will

soon be bringing the power up. When the lights all turn on again in the East Village, Jeff is able to bring the Cooper Union systems back up remotely from his home, thanks to shutting them down correctly the evening before.

“Brian Cusack took a 3-hour bus ride from central New Jersey into the Port Authority and catches a cab down to Cooper”

On Saturday morning and with driving restrictions still heavily enforced, Brian Cusack (ME ‘01), takes a 3-hour bus ride from central New Jersey into the Port Authority and, with the subways still shut down below 34th Street, catches a cab down to Cooper. He spends the morning plugging the line cards back in and replacing the redundant power lines. After removing the low-power usage special settings put in place two days earlier, he brings all the other servers back up to normal. The web is up! Datatel also seems to have suffered no serious damage, though it will be until the next week before that is officially running, thanks to more effort by John Kibbe.

Thanks to the hard work and long hours of Facilities, Security, and the Computer Center staff, and despite an unforeseen generator failure, Cooper had power while many did not and was running full-steam ahead by the beginning of the week immediately following Hurricane Sandy. ♦

“Datatel seems to have suffered no serious damage thanks to John Kibbe ”

CRYPTOQUOTE

MARCUS MICHELEN (BSE ‘14)

A Cryptoquote is an encoded quote. It is encoded such that each and every occurrence of a letter is substituted with a different letter of the alphabet. Using clues such as frequency of occurrence and placement, the original quote can be found. For instance, the word XBDIKCXXBZ could be deciphered to reveal the word LONGFELLOW.

“ES’Y YX GAYU SX HAIND. ES’Y YX GAYU SX
DASG. ES SAVGY YSPGLNSD SX OG NGLSHG
ALW VELW.” - CXPPEYYGU

Last issue’s solution:

“MAN IS IMMORTAL, NOT BECAUSE
HE ALONE AMONG CREATURES HAS AN
INEXHAUSTIBLE VOICE, BUT BECAUSE HE HAS
A SOUL, A SPIRIT CAPABLE OF COMPASSION
AND SACRIFICE AND ENDURANCE.” – WILLIAM
FAULKNER

FOLLOW US ON TWITTER!
twitter.com/cooperpioneer



LIKE US ON FACEBOOK!
Shortlink: goo.gl/YkmW1



THE PIONEER IS ONLINE
Visit: pioneer.cooper.edu

JOIN THE PIONEER TODAY
E-mail pioneer@cooper.edu

KENKEN

MARCUS MICHELEN (BSE ‘14)

KenKen is a Japanese paper puzzle by Tetsuya Miyamoto much like Sudoku, only it involves both math and logic. It roughly translates to “cleverness-cleverness.”

Instructions: Like Sudoku, each row and column must contain the numbers from 1 to 5. The number in the upper-left corner of the bolded shape made up of squares is the number you need to get by using the operation next to the number. For example, the “2-” rectangle in the bottom right corner can be filled in with a 5,3; or a 4,2; or 3,1

This puzzle contains only one solution, which will be released in the next issue.

Due to a typing error, last puzzle had no solution.

2	5-		1-		10×
3÷	192×		14+		
				1-	
9+		3+		2+	
	3-		13+		3÷
14+					

COOPER UNION ORIGAMI’S DAVID YURMAN WINDOWS

CAROLINE YU (EE ‘15)

If you walk by the David Yurman designer jewelry store in Manhattan (as well as three other locations nation-wide), you’ll see a 33’ origami torus made of 105 sheets of hand-cut paper. These creations are covered with approximately 35 red origami berries. The “berries” have LED’s wired into them so that they light up at random intervals, making the model twinkle.

These displays were created by The Cooper Union Origami Club.

The fact that all four displays were designed and constructed in less than a week makes them even more incredible. Origami Club president, Uyen Nguyen (ME ‘14) says that “the timing was our greatest challenge...the group effort was amazing, and I was personally touched by the incredible amount of effort my club members put into this. I honestly believe that, of our group’s current regular members, had we been down by even one person, we would not have finished the job. I am amazed and thrilled by the dedication my members have to this club.”

The idea of having origami as a window display was proposed by Richard Barrett, who works for David Yurman. He was unsure of what to do for a window display but when he went to Parents’ Day at Cooper because his son is an architecture student, he saw President Bharucha talking about the Origami Club. The Origami Club had made the President a torus and Richard Barrett thought that origami would be a good idea to use in their holiday window display. Richard Barrett then contacted student services, who then contacted the Origami Club.

Approximately 300 man-hours were spent making the torus. The club pulled consecutive all-nighters to finish the torus. Uyen describes it as a “club meeting that lasted more than 72 hours.” Harrison Cullen (EE ‘15), believes that “[he] couldn’t find a better group of people to fold paper with...while horribly sleep deprived.”

All compensation that The Cooper Union Origami Club received for their work will be donated back to Cooper. If these displays inspire you to fold something amazing, join the now-esteemed Origami Club! ♦

How Do We Look?

JENNA LEE (ME ‘15)

An old adage claims that “everyone is an artist”, but is it really true?

This year’s exhibition, “How Do We Look?” shows an attempt to use science and technology as a foundation for art by engineering students in last semester’s Scientific Photography class. Can photographs express motions? Time? Right next to the entrance of the exhibition, Michael Pimpinella’s (ME ‘14) work asks these questions to the audience. Against the preconception that photography is a

static art form, students including Ferdy Budhidharma (ChE ‘14), Joann Lee (ChE ’13) and Eric Leong (ME ‘14) toy with time and the photographic medium.

Their work has the theme of motion and time in common, skillfully depicting the lapse of time in a single snapshot. Some raises more fundamental questions about our perception of the world: Mindy Wong in work identifies herself using a collection of magnified images of her hair, skin and other parts of her body.

Robert Yankou (ME ’13), on the other hand, questions our understanding of “color”, as it is mathematically displayed using a limited, discrete set of numbers.

William Biesiadecki (ME ‘14) questions how reliable our memory is, comparing human memories to evanescent ripples on the pond.

Elizabeth Kilson (EE ‘14) tries to get the closest view on animals using her camera, offering a different look on the small creatures we run into every day. There are also explorations on technology of photography, as Uyên Nguyễn’s (ME ‘14) holograms, or Victor Chen’s (EE ‘13) attempt to abandon normal flat images and to see the world in a different angle, a distorted, fish-eye way.

All in all, the exhibition shows that engineers can

also be great artists, raising similar questions as artists do, only using more scientific tools such as microscopes and infrared lights. Would it be a mere coincidence that Joann Lee’s pictures strikingly resemble Magritte’s The Empire of Light? ♦

LITTLE SHOP OF HORRORS

MATTHEW LEE (ME ‘15)

The Cooper Dramatic Society put on a terrific show last Sunday with their rendition of Little Shop of Horrors. The show was an amazing success, bringing a large portion of Cooper’s student body out to see it. The most intriguing aspects of the performance were the impressive Audrey II plant puppets that were used throughout the musical.

The well coordinated duo of Alejandro Acosta (EE ’15) manning the puppet with Kal Megati (ChE ’15) on vocal duties worked together to give the puppet incredible realistic movement and a fantastic singing voice. Other standouts include Joseph Colonel’s (EE ’15) hilarious act as sadistic dentist Orin Scrivello, as well as several other small roles that required a quick backstage costume swap.



COMIC: PETER COOPER IN THE FUTURE

BY JAKE POTTER (ME ‘16)

