

GENDER DIVERSITY AT THE COOPER UNION AFSHIN KHAN (CE '19) An overview of the Board of Trustnot reflected in STEM field adees Meeting from June 21, 2017

describes an initiative of Presi-

dent Laura Sparks to improve di-

versity at the Cooper Union. The

"Diversity Task Force" is fully en-

dorsed by the Board of Trustees

and is expected to launch soon.

According to the minutes from

this meeting, "the committee

will look to external resources to

employ best practices and break

new ground in this area at Coo-

per". Cooper Union has always

held diversity in its highest re-

gard, allowing women to enroll in

courses in an era when that was

uncommon, allowing even those

of limited means to benefit from

President Sparks, in a message

to the Cooper Union community,

stated how the Faculty-Student

Senate recommended taking a

closer look at gender diversity in

engineering admissions. Sparks

supported the idea and mentioned

establishing a new "Diversity &

Inclusion Task Force". In the same

memorandum, Sparks mentioned

how the goal of the committee is to "engage faculty, students and

staff in a process that examines

diversity and... drives us toward

excellence by promoting inclusive

practices across all facets of Coo-

per Union operations, pedagogy,

The numbers gleaned from var-

ious sources below indicate that

although an equal, or even greater

number of women are graduating

with college degrees in compar-

ison to men, these numbers are

and student support."

the school's resources.

Editors-in-Chief: Matthew Grattan (ChE '19) Kavya Udupa (BSE '19)

Director of Photography: Wentao Zhang (ChE '19)

Photographers: Scarlett Chen (Arch '22) Julius Freyra (CE '21) Lydia Li (ME '21) Zheng Alex Liu (ChE '20) Simon Shao (ME '19)

> Front Cover: Jet Carter (Art '20)

Graphic Designers: Alfred Dudley III (Art '18) Sam Jiang (ME '19)

Writers: Miles Barber (CE '18) Joseph Bentivegna (EE '19) Evan Bubniak (ME '21) Amal Bukhari (ME '21) Brian Frost (EE '19) Gabriela Godlewski (CE '19) Pranav Joneja (ME '18) Afshin Khan (CE '19) Olivia Heuiyoung Park (ME '20) Isabella Pestovski (ME '19) Brandon Quinere (CE '19) Yuqiao Wang (ChE '19) Morgan Wolfe (ME '19)

missions, as is evident in Cooper Union's very own engineering school.

According to admissions statistics for the 2016-2017 academic year, Cooper Union enrolled 480 students to the engineering school, approximately 66% of which were male, and 34% of which were female. Although somewhat dated, the National Center for Education Statistics reported that 33% of males were beginning postsecondary students in STEM fields from 1995 to 1996 whereas 15% of females were beginning postsecondary students in STEM fields over the same time period. Some indices, such as U.S. News' report that the gender disparity has only widened over the past two decades.

According to a 2014 U.S. Census Bureau, women are more likely than men to have a college degree. According to the survey, 29.9% of men had a bachelor's degree, whereas 30.2% of women had a bachelor's degree. According to the same survey, 37.5% of women between the ages of 25-34 have a bachelor's degree or higher, whereas 29.5% of men have a bachelor's degree or higher for the same age group.

It is important to remember that the Society of Women Engineers was formed when 50 women congregated at Cooper Union's Green Engineering Camp in 1950; a fact that should inspire gender diversity at Cooper Union today. ◊

THE ROAD TO FREE: IVORY **TOWER FIVE YEARS LATER**

By 6:15, the lobby outside Rose Auditorium was bustling. At the tables lined up along the walls, students, alumni, and visitors enjoyed sandwiches and popcorn, drank seltzer water, made their own Cooper Union and activist-themed pins. They also explored literature from the spring of 2013, when Cooper students occupied the President's office on the top floor of the Foundation Building for 65 days in protest of then-President Jamshed Bharucha's decision to introduce tuition.

ing. The short film, "Building the Cooper Union Foundation Building: a Model of Education," documents the fabrication process - the sketching, drilling, and assembly of each piece, sometimes from a first-person perspective, culminating with the students wheeling it on the streets up to the New York Public Library.

As the documentary began its

COOPER LAUNCHES SCHOOL STORE

JOSEPH BENTIVEGNA (EE '19)

The official Cooper Union school store launched last Friday after months of hard work by the Center for Design and Typography here at Cooper. The store is housed primarily online (store.cooperunion.com) and, on launch, had over 40 items for sale. The items are broken down in to four categories: The Basics, Throwback, Old School, and Wearable History. Each category is meant to represent a different facet of the Cooper experience, so whether you're into the old school looks or a Great Hall fanatic, there's an option for everyone.

Another feature of the store is a pop-up stand that contains samples of many of the items found on the website. Mindy Lang, Cooper's Creative Director and an adjunct professor of graphic design here at Cooper, oversaw the launch of the store. She discussed

how the pop-up stand will be a great way for the Cooper community to see and feel the quality of the products before they buy them. The stand will not be a permanent feature, but expect to see it make appearances at many Cooper events!

Additionally, the store will continue to expand as new designs are created and new items are released. The design team expressed their interest in students submitting their own ideas for products and designs that can be featured on the store. If you have a design and you'd like to share it, send it to Mindy Lang at lang@ cooper.edu.

Look out for the official Cooper Union School Store coupon that gives a 10% discount for students, faculty, and staff. ◊



Photo by Joseph Bentivegna (EE '19)

NEWS BULLETIN

Mike Essl (Art '96) is now the Dean of the School of Art after serving as Acting Dean since July 2016. In addition to teaching graphic design at Cooper, Essl was also a found member of the Committee to Save Cooper Union. Essl works alongside Assistant Dean Adriana Farmiga (Art '96), who was appointed this past fall.

The Joint Student Council passed a resolution demanding that the administration immediately addresses any outstanding

complaints between students, parents, and the Financial Aid Office. In addition, last Tuesday's resolution called for improvements to the "efficiency and effectiveness" of the Financial Aid Office to prevent administrative issues from interfering with academics. Prior to passing the resolution, the JSC compiled a list of grievances and presented them to President Sparks and Vice President of Enrollment Services Mitchell Lipton. ◊

EVAN BUBNIAK (ME '21)

Copy Editors:

Camille Chow (EE '19)

George Ho (BSE '19)

The Pioneer is printed on packing paper with soy-based ink by Victoria Sobel (Art '13), Jacob Jackmauh (Art '18) and others on their risograph in Brooklyn.

> Questions? Concerns? Email The Pioneer at pioneer@cooper.edu or visit LL217.

They were all there for a planned screening, of the 2014 documentary Ivory Tower, directed by Andrew Rossi, which explores the causes behind skyrocketing college tuition and the impacts it has on education. The film prominently features Cooper Union as an important battleground where the ideal of college as a democratic, public service clashes with a reality where higher education has become a commodity.

As the lights dimmed and the projector warmed up, the appetizer came on: a first-year architecture student project to re-create the exterior of the Foundation builddiscussion of Cooper Union, the audience's reactions turned emotional. During the director's interview with Mr. Bharucha, some spectators ridiculed Bharucha's observation that the ideal of free education was "not compatible with a small class size, highly interpersonal interaction, and providing good compensation"; and again as he equivocated when asked if Cooper had made a risky decision by investing money into hedge funds shortly before the financial crisis of 2008: "One can ask if they were [risky] or not."

After the film, Mauricio Higuera (Art '13) went up to the lectern and introduced himself, Higuera recorded the clips of the occupation in Ivory Tower. As footage from the occupation played on the projector, Higuera recounted



Ariana Freitag (EE '20) and Kiersten Mercado (Art '19) facilitate audience questions. Photo by Simon Shao (ME '19)

why the founding mission of Cooper Union carried such personal significance to him, not only explaining that he would not otherwise have been able to study art but also describing the administration's assistance in allowing him to return to see his mother in Colombia after she had fallen ill.

Finally, the audience watched a short film by Ben Morea, an artist and activist who founded the Black Mask activist group in the

1960s to produce revolutionary art. Set against footage from the 1968 garbage collector strike, in which the Black Mask dumped accumulated trash from the Lower East Side at the Lincoln Center, Morea narrated the efforts of his so-called "affinity group" to produce revolutionary art critical of bourgeois society and the ongoing war in Vietnam. After the screening, the floor was opened to questions for Morea, Rossi, and Higuera. ◊

AFTER TUITION PART III: TURNING A SHIP

MATTHEW GRATTAN (ChE '19)

Fred Fontaine is Professor and Jesse Sherman Chair of Electrical Engineering at The Cooper Union. In addition to being a faculty member since 1987, Fontaine is also an alumnus of the Albert Nerken School of Engineering. Fontaine spoke with The Pioneer on the subject of tuition and how it fits into the school's ongoing narrative.

For a school that had been tuition-free for over 150 years, charging tuition was a historically significant event. Cooper Union is now a bit more like every other higher education institution in the US. Perhaps, something characteristic to Cooper has been lost, beyond being "as free as air and water."

According to Fontaine, the full-tuition scholarship wasn't just significant financially, but it was also a prestigious award. "It created an attitude that everyone was here based on their merit," said Fontaine, "everyone was on equal footing."

Fontaine acknowledged that his time at Cooper was a unique experience—and not just because of the lack of tuition. Cooper has always been a close-knit community. "You also have to look at the small size, the intensity of the curriculum, the fact that we don't have a real campus," Fontaine explained, "Everyone pretty much lives in the buildings, and certainly in the EE department, everyone lives in the labs."

At the current price of \$21,625 per year, Cooper Union's tuition could be considered low compared to similar schools, but that doesn't necessarily make Cooper the most attractive option for prospective students—especially when factoring in the cost of living in New York. "A lot of the students who would come here are very top performing," explained Fontaine, "but they might also receive financial aid packages from other places."

There's no clear distinction between the pre- and post-tuition Cooper: It's not as if one can point out stark differences between the tuition-paying and tuition-free students or that Cooper attracts different applicants because of tuition. "Over the years, a lot has been going on, and it's not just the change in tuition," emphasized Fontaine. "There was significant mismanagement by the prior administration; it created a lot of ill will," he explained.

Cooper's financial situation over the past few decades was problematic even before tuition, and financial mismanagement ultimately influenced the decision to charge tuition.

Administrative issues didn't stop there: Particularly for the engineering school, the aborted computer science program was an example of the disconnect between the administration and the rest of the Cooper community. Students were admitted to a program that didn't exist.

"It was really an unmitigated disaster," said Fontaine. "The prior administration's refusal to listen to the community created a challenging environment over the last few years," he added.

In a way, tuition is more a symptom of previous mismanagement, rather than a source of current changes. But even that sentiment could be an oversimplification.

"You can't say, 'the only difference between then and now is tuition." There are so many other things going on that it's hard to attribute all of them to tuition."

"You can't say, 'the only difference between then and now is tuition.' There are so many other things going on that it's hard to attribute all of them to tuition," said Fontaine. "If everything else had happened, except they actually never put in tuition, we would have issues. It's part of a symptom; it's part of a larger problem."

Fontaine added: "Going back to tuition-free would have significant meaning in a spiritual sense, in the underlying emotional attachment to the school and what it represents in terms of Peter Cooper's vision."

Not all of the issues are internal to Cooper either: The preparation of students coming out of high school has also changed over the years.

"I think that students are coming in with fewer analytical skills than they used to, and that's not just apparent in lectures or theory-based courses but also in project-based courses. It's harder for students to deal with open ended problems or take the initiative," Fontaine said.

However, to Fontaine, Cooper students are still ambitious, as evidenced by the number of electrical engineering students who also have jobs during the school year. Job fields related to electrical engineering have become increasingly popular in recent years, and that may draw some students away from their studies.

"If everything else had happened, except they actually never put in tuition, we would have issues. It's part of a symptom; it's part of a larger problem."

On the one hand, Fontaine sees student employment as a positive. "It speaks to our program, that our students do so well that they are sought after so highly," said Fontaine, "but on the other hand, it's yet another distraction."

Fontaine also happens to be chair of the en-

gineering admissions committee. The same year tuition was charged was also when faculty became more involved in the admissions process. Currently, Fontaine is working with Toni Torres, Director of Strategic Initiatives and Institutional Effectiveness, to improve the admissions process in a holistic sense.

"One thing that hasn't happened yet, is a feedback process," explained Fontaine, "where we look at how students do once they're here, how they do after they graduate and ask: What in the admissions process would be an indicator of success here?"

Fontaine expressed optimism about the future of Cooper, but it is also too early to say how things will turn out. "It's still a work in progress by the new members of the board of trustees and by President Sparks," said Fontaine regarding the state of Cooper Union. It seems that Cooper's trajectory is changing, but ultimately, time will tell.

"It takes a while to turn a ship," said Fontaine, "you can't just make instantaneous changes." ◊

COOPER BRUE EXHIBITION



Cooper Brue held their second annual Beer Brewing Exhibition on Dec. 1. The brewing class, under the direction of Professor Sam Keene, showcased a variety of their beers, including a brown ale, an IPA, a porter, and a milk stout alongside beer-inspired snacks. The event was also educational; there were taste tests, informative posters, and of course the knowledgeable brewers! From left to right: Evan Dalke (CE '18), Ella de Buck (Art '18), Helen Ho (ChE '18), Brenda So (EE '18), Professor Keene. Photo by Matthew Grattan (ChE '19).

THE DISASTER ARTIST (2017)

The Disaster Artist is about the making of the famously "so bad it's good" movie called *The Room*. It starts with Greg Sestero (Dave Franco), whose shyness is starkly in contrast with Tommy Wiseau's (James Franco) willingness to put himself out there. So Greg and Tommy, having been rejected by Hollywood, team up to make their own movie. The chaos and craziness that ensues is what makes up the meat of this film.

from? How does he have so much money? Where did he get it? How old is he?), Greg has these same questions and asks them. Unfortunately, the answers to these questions never come, as it seems that the truth is still a mystery in real life as well.

MILES OF MOVIES

MILES BARBER (CE '18)

THE ROOM (2003)

movies with a few hilarious moments here and there. The movie looks terrible, is terri-

The Room is affectionately known as one of the worst films ever made. It's intended as a drama about Johnny (Tommy Wiseau), a loving man whose girlfriend Lisa (Juliette Danielle) is starting to develop an interest in Mark (Greg Sestero), Johnny's best friend, just a few weeks before their wedding. Throw in a bunch of other characters that never quite seem like they belong in the movie and you have *The Room*, a hilariously bad movie with some of the worst line delivery, worst acting, and worst writing I've ever seen.

The only reason anyone knows about this stupid thing is because of its "so bad it's good" reputation, which I can verify is halftrue. The movie is truly an atrocity, but it's not exactly good as a result. Though this film has a compilation of hilarious moments, it also has quite a lot of material that is just plain boring. Unfortunately, most movies that fall into the category of "so bad they're good" really are mostly just boring bly edited, terribly dubbed over, has terrible continuity errors, and just never seems to be focused on anything. It's just a mess of a film that is so shockingly bad at the beginning that it's funny. The shock wears off though, and the film becomes a boring slog.

The real intrigue in this film comes from the fact that its creator (director, writer, producer, and star), Tommy Wiseau, is such a bizarre figure. I feel like I want to know more about him and how he managed to convince an entire cast and crew to work on this terrible movie.

Overall, *The Room* truly is as bad as everyone says. Unfortunately, it's not as entertaining as I would have hoped and, though the runtime is a merciful hour and a half, it still manages to feel like a day. ◊

Grade: D

This film was quite entertaining. James Franco does an excellent impression of Tommy Wiseau and you really get why Greg Sestero wanted to work with him. He just has a fearlessness and a childlike innocence about him that makes him almost endearing, even though he does a lot of terrible things on the set of The Room.

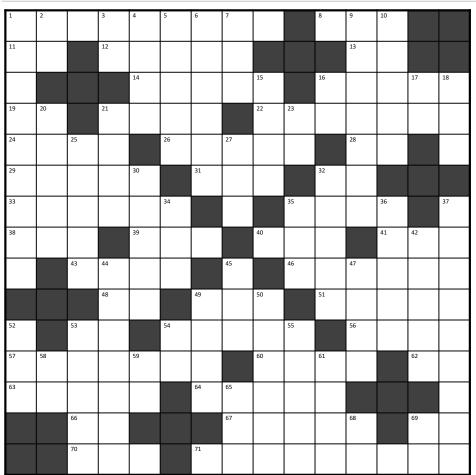
Now, this film is an adaptation of Greg Sestero's book about the making of *The Room*, so it's told from Greg's perspective, which is good because it would probably be very difficult to relate to Tommy if the film centered around him. Instead, you get to see all of the weirdness that is Tommy from an outsider's perspective. Just as you have questions about Tommy (Where is he

If you've never heard of The Room, you might be confused by this film. If you're like me and you think The Room is overrated and rather boring, you'll find this film to be decent but nothing special. And if you absolutely love *The Room*, you'll probably have a blast watching this movie. It tells its story pretty well and has lots of funny "behind the scenes" moments where you really come to understand Tommy Wiseau's incompetence as an actor, writer, and director. It shows you that two guys with very little talent but lots of money can get out there and make a terrible movie. I suppose that isn't very impressive by itself. What is impressive is the immense success they've had after the film's release. While I enjoyed this film, I would have a hard time recommending it to anyone not familiar with the source material; it's just not quite good enough on its own. ◊

Grade: B-

CROSSWORD

ISABELLA PESTOVSKI (ME '19)



OLI'S SWEET MESS: THE DESSERT KITCHEN

OLIVIA HEUIYOUNG PARK (ME '20)

One of my favorite things about the East Village is its abundance of small shops. No two shops are the same, and each one boasts its unique qualities and vibes. I love that even after two years of walking around the same streets and avenues, I tend to discover something new daily.

The small dessert shop we've visited for this issue of *The Pioneer* was an embodiment of this—tucked away on St Mark's, waiting to be discovered. No one else was there when we entered "The Dessert Kitchen," and the cute yet sparse décor inside initially is unsettling. We sat down, and were greeted by a super friendly waiter with our menus. The menu had a wide variety of items, from sweet desserts and drinks to savory, quick eats. We ordered the "Purple in Love" (grape shaved ice with fresh grape, special flour balls, ice cream mochi, and "special" grape seaweed beads) and the "Hot Dog Egglet" (egg puff waffles with hot dog).

The interior, although seemingly sparse, had various small and cute decorations. They also had a variety of board and card games on the side so that you could play while you're there. The shaved ice was pretty good, the grapes were actually fresh and the toppings went well with the shaved ice. It wasn't overly sweet, and had just enough balance of the cold ice and the juice and milk base. The hotdog was surprisingly good too with the tender sausage pairing perfectly with the soft pillow-y egg puffs.

The Dessert Kitchen was a great embodiment of how you shouldn't judge a book by its cover. Despite the slightly creepy emptiness that initially hits you when you walk in, the desserts and food they had were pretty good, and had left me wanting to try more next time. They also have a stamp card, and you get something for free for every ten items you buy, so that's another incentive for trying this place out! They're also usually open pretty late too! \diamond

The Dessert Kitchen 94 St Marks Place Monday, 3 p.m.-11 a.m. Wednesday, 2 p.m.-11 p.m. Thursday-Saturday, 2 p.m.-12 a.m. Sunday, 2 p.m.-10 p.m.



ACROSS:

- 1. Major holiday in December
- 8. Solid state of water
- 11. One of Santa's favorite words12. Mark not easily removed
- 12. Mark not cashy
- 13. Prof. Agrawal
- 14. American model and actress, Kate ____
- 16. Australian bear-like treeclimber
- 19. Not applicable
- 21. Annoying flying insect22. Mythical creature in German folklore,
- described as "king of the fairies"
- 24. Beauty products company
- 26. Netflix series: ____8
- 28. French masculine pronoun
- 29. Flightless New Zealand bird, plural
- 31. Tchaikovsky ballet: _____cracker
- 32. Common Era
- 33. Children _____ await opening their gifts on 1. Across
- 35. CSS extension language; or giving someone attitude
- 38. Largest airline in Japan (abbr.)
- 39. American Astronomical Society (abbr.)
- 40. Used to steer a canoe
- 41. International Development Institute (abbr.)
- 43. Kardashian matriarch
- 46. American citizens aged 18 and above are eligible _____
- 48. Singular article
- X-ray technology used to detect explosives in peoples' luggage in airports (abbr.)
- 51. i.e. real, not fake
- 53. Musical artist behind "I Follow Rivers," Lykke ____
- 54. Popular skiing destination in Colorado
- 56. Smallest unit of life that can replicate independently
- 57. The feeling of finals approaching, i.e. impending doom
- 60. "And the _____ ran away with the spoon"
- 62. French article meaning "the"
- 63. Famous house-elf from *Harry Potter* series
- 64. i.e. lol, haha
- 66. Country code top level domain for Romania
- 67. Sound made by a sneeze
- 69. Company (abbr.)
- 70. ____struck, ____some, etc.
- 71. Fine-grained stone used to sharpen blades

DOWN:

- 1. One of the most well known Jewish holidays
- 2. Slang for a prostitute
- 3. To be
- 4. To astonish, shock
- 5. Spanish small plates
- 6. Wear a pair of these to keep your hand warm
- 7. Means "year" in Spanish
- 9. Don't forget to leave these out for Santa!
- 10. Electronic mail
- 15. A bird's home
- 16. Malaysian capital (abbr.)
- 17. Natural log
- 18. It's just a number
- 20. Illegal immigrant
- 21. Nothing ventured, nothing ____ed
- 23. Prefix meaning again
- 25. Minor adjustment
- 27. Member of religious group of women who swear chastity and obedience
- 30. Fallen in battle
- 32. Type of song sung during Christmas
- 34. Yes but with more enthusiasm
- 35. File extension used for files containing binary data for statistical analysis
- 36. When an enemy surrounds a town, cutting off access to supplies
- 37. Meet someone under this for a kiss
- 42. Tool used to bore holes or join two pieces of material together
- 44. Kesha's newest album
- 45. Social Democratic political party in Canada
- 47. T in STEM
- 49. New Dean of the Art School
- 50. To entice, attract powerfully
- 52. Say goodbye to a good one of these during the holidays
- 53. Zodiac sign Sept 23 Oct 22
- 54. Astronomical unit
- 55. Opposite of day
- 58. "__ money, __ problems"
- 59. Yiddish exclamation expressing dismay
- 61. Sears stock abbreviation
- 65. Interjection expressing amazement
- 68. Occupational Therapy
- 69. Cartoon Network

SWE: "LET'S TALK"

Photo by Simon Shao (ME '19).



TUNEAGE: EP 006

PIONEER.COOPER.EDU/CATEGORY/TUNEAGE



Professors Simson (left) and Weiser (right) discuss their experiences as women in engineering at SWE's "Let's Talk."