

# On the Subject of Reinvention

TENSAE ANDARGACHEW (ME '15)

At Cooper, Reinvention has begun. Well, not exactly. It's a bit more complicated than that.

No one has forgotten the letter from President Bharucha explaining the deep financial crisis the school is in from a year and a half ago – and everyone since then has worked tirelessly to figure out how to solve it. The Revenue Task Force released a report in December 2011 that proposed keeping the full tuition scholarship and put in place revenue generating programs such as online course, programs for high school students, and professional development classes – all of which were explored in greater detail by the Engineering School's Reinvention Graduate Tuition Committee

Additionally, the committee explained how important the full tuition scholarship is and posed the questions everyone wants the answer to – how do we give Cooper its advantage? How do we optimize Cooper's resources?

A few months later the Expense Reduction Committee, which stressed how there has been a structural deficit and suggested a number of changes: phasing out of the BSE program, selling the dorms, and figuring out a better way to utilize the space Cooper has. These changes will eventually be taken into effect.

Throughout all of this, Joint Faculty Meetings were held, but unfortunately attendance was not great due to everyone's non-overlapping schedules. So at some point last summer, President Bharucha asked each of the three schools individually to come up with a plan for their respective schools.

Each school, independent of one another, discussed plans to reinvent particular ways to generate a certain amount of revenue, with all the calculations confirmed by CDG, a firm hired by Cooper. Come winter, when the three deans of the three schools presented their plans to the Board of Trustees, they were met with resistance – not from the board itself, but from

student protesters. Because of that, and the “No Tuition It's Our Mission” protest last spring, “at that moment”, said Dean Bos, “it was interpreted that no revenue whatsoever [should be part of Reinvention]”.

The art faculty eventually then said that revenue generating programs were out of the question, and had to take a stand against it. They voted against forwarding the proposals to the board and wrote a nuanced letter explaining how they felt.

This letter was received, Dean Bos perceives, by the Board of Trustees and the president as an “unwillingness” to move forward with Reinvention, despite the last paragraph of the letter where the faculty essentially affirm their desire to work with the administration and the board.

However, once the students for next year's class were deferred because no plan was put forward, it was made clear just how important adopting the plans was to the survival of the art school. Since then, the art school has put programs forward for Reinvention: a revenue generating precollege program which can start as early as 2014 where students learn about “how to think about going to an art school” and what a BFA is, and a Masters of Design Practice where students learn a lot about design in the social sphere.

So what does it all really mean? There are many proposals on the table, each of which sustain the three schools individually – not as a whole Cooper Union. Financially, the plan to reinvent has begun – however other aspects of Reinvention have yet to be tackled. The process of bridging the divide between the three schools has not yet begun.

The story of reinvention will continue to be this complicated story mired in conflict, but there is no question now – there is no turning back, the schools have proposed financially sustainable paths to take. ♦

*If you'd like to further discuss this op-ed, feel free to email 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 “20x” rectangle in the bottom left corner can be filled in with a 5,4 or a 4,5.

The unique solution to the last issue's puzzle is reproduced below. This puzzle contains only one solution, which will be released in the next issue.

7	4	3	5	1	2	6
4	1	6	7	5	3	2
5	3	2	6	7	4	1
6	2	7	4	3	1	5
2	7	1	3	6	5	4
3	5	4	1	2	6	7
1	6	5	2	4	7	3

20x	5	1-	6+		
	8+		1		
2÷			120x	1-	
	2÷				
15x					

# NASA's Don Thomas Visits Cooper

CAROLINE YU (EE '15)

Sunrise and sunset are two of the most breathtaking things on Earth. Imagine seeing the sun rise and sun set 16 times a day from an orbiting space shuttle. This is just one of the many experiences Dr. Don Thomas, former NASA astronaut, shared during his talk in the Great Hall.

After graduating with honors from the Case Western University with a degree in physics, Dr. Thomas received a masters and doctorate degree in Materials Science from Cornell University. These education degrees were pursued in hopes of becoming an astronaut, which Dr. Thomas was set on becoming since the age of six after seeing the first human be set off into space.

Dr. Thomas emphasized how important it is to work hard and do everything possible to achieve life dreams. The first time Dr. Thomas was not accepted into the space program he received an impersonal postcard in the mail and decided to look at what skills the people who were accepted had – even if those skills were not necessarily required.

After learning how to fly a small plane and skydive and even being interviewed by NASA and having family and friends background checked the third time he applied to the program, Dr. Thomas was still not accepted. Everyone has doubts from time to time, but it was clear that Dr. Thomas had no intention of giving up on his goal. In 1990, Dr. Thomas was hired by NASA and went on to serve as a communicator, direction of operations, mission specialist, program scientist at different times for NASA and go on four space missions.

When asked why there is a need to send people to space, Dr. Thomas answered by saying that humans explore: “This is what humans do.” He compared space exploration to pioneers who explored the land west of the Mississippi – at the time “it was risky to travel in a canvas-covered wagon.” Dr. Thomas also described the distinction between a picture of Neil

Armstrong on the moon compared to a picture of just the Moon's landscape. To him, it was the simple fact that humankind is able to get a human to the Moon that makes all the difference.

I asked Dr. Thomas of what he does when he is sharing his experiences with someone not necessarily interested in space missions:

“For the people not interested in science and exploration I try to emphasize the personal and human aspects of flying in space. I think the more personal you can make it the better chance you have of connecting with them. So I try to share my experiences in terms of imaging what it is like for that human being to be in that location (on the moon, on the way to Mars, on the ISS, etc).

“The key to scientists and engineers explaining the significance of their work to other individuals is to keep it in very simple terms and try to relate it to something in everyday life. Look for connections as to why the work or results are important or might be important in the lives of others. I always recommended that everyone should be able to describe their research and explain it to someone like your mom or dad at home. The minute you start talking over their heads, you lose them.”

But, there are many of us at Cooper who could listen to space mission stories all day. For more, read Professor Hopkins's article in a national amateur radio magazine about how Dr. Thomas has been an inspiration to him as well at [https://engfac.cooper.edu/pages/bob/uploads/9\\_Minute\\_QSO\\_Feb1.pdf](https://engfac.cooper.edu/pages/bob/uploads/9_Minute_QSO_Feb1.pdf)

Dr. Thomas described his incredible experiences orbiting the Earth but the way in which he related our lives on Earth and the entire mission of his experience was truly inspiring. Personally, my favorite stories

Dr. Thomas shared were how important it was to build up and maintain muscle mass and bone density in preparation of the flight as well as during the flight.

He described how one of the astronauts wrapped her feet around a pole to stop herself from moving backwards in a zero-gravity environment while she typed on a computer (this would happen due to Newton's 3rd Law of motion), and how good it felt to eat refrigerated and non-powdered food on Earth after each mission.

With so many astonishing images of Earth from space, Dr. Thomas found the ones that demonstrated the impact of humans on Earth: “There are so many pictures of the Earth that stand out in my mind. I think seeing the entire continent of South America under a smoke pall from the deforestation and burning of the rainforest really made an impression on me, as did seeing the border between Israel and Egypt in the Gaza Strip. Both examples illustrate the impact that humans are having on the planet that is visible from 200 miles up.”

In addition to these pictures, it was incredible to see the pictures of Earth's beautiful natural locations: the difference between desert and fertile land at the Nile River's delta and the Himalayan mountain range where Mt. Everest was surrounded by mountains that looked quite similar.

It was hilarious when Dr. Thomas showed a picture of the top of Mt. Everest and joked how he saw the top of the tallest mountain on Earth “the lazy way.”

Traveling at five miles per second or conducting 80 experiments during a 15-day space mission is mindboggling, but Dr. Thomas's stories and advice are what inspired me to never give up on what I hope to accomplish and always take great stride in human advancement and achievement. ♦

# 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.

“E OGAEGZG SDHS EB AEBG NEZGY UXI AGCXLY,

UXI YDXIAW CHVG AGCXLHWG... HLW SPU SX BELW

YXCGOXWU MDXYG AEBG DHY NEZGL SDGC ZXWVH,

HLW DHZG H JHPSU” - PXL MDESG

Last issue's solution:

“WHAT A WONDERFUL THING, TO BE CONSCIOUS!

I WONDER WHAT THE PEOPLE IN NEW JERSEY DO.”

- WOODY ALLEN

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## Stock to Replace Brazinsky as ChE Chair

MARCUS MICHELEN (BSE '14)

For the past couple of weeks, there have been rumors circulating that Professor Stock had replaced Professor Brazinsky as Chair of the Chemical Engineering Department. Last week, I sat down with Professor Stock to find out what happened. Reproduced below is an excerpt from what Professor Stock said during the interview:

Professor Stock: Basically there was a faculty meeting early February. I made a case for why I thought it was my time, and I was elected [chair of the Chemical Engineering Department]. Part of [the reason I wanted to run], is that I'm not planning to be one of those professors at Cooper Union who basically stays here until they drop dead.

So it would be nice to spend a couple of cycles being chair of the department before I start thinking about retiring. So that was partly my motivation and partly because I think it would be a cool thing to do.

Professor Brazinsky is still chair, and will be chair until September 1st. Quite often at Cooper, changes in chair happen when chairs retire. So, to a certain extent, I kind of consider myself pretty lucky because Professor Brazinsky isn't retiring yet so that's going to be very useful because there's always someone I can talk to who knows what the deal is. He's going to have the chance to get back to some of his teaching, which he enjoys.

I'm not expecting any earthquake type changes or anything. The departments in Cooper run a little bit differently. Each one has its own kind of character. Ours kind of runs like a committee. People have their own particular view on things.

Sometimes the meetings can be passionate, to say the least. There are things that some people want to do and others want to do differently. We always manage to thrash it out and come up with changes and improvements in what we hope is a kind of thoughtful way. ◊

## Cooper GLASS's First Drag Race

JOSEPHINA TAYLOR CONQUISTADORA (EE '15)



(photo credit Jenna Lee)

On Thursday, March 29, Cooper Union's GLASS (Gay Lesbian and Straight Spectrum) club held a drag race in the Rose auditorium, and we ain't talkin' bout no cars Miss Thing.

The anticipation was mounting as the minutes ticked by. Hercules and Love Affair played through the speakers of the Rose Auditorium, failing to satiate the appetite of an audience that filled nearly half of the space.

A picture of RuPaul, drag queen extraordinaire, shined on the projector and smiled upon the artists and engineers waiting for the show to begin. The music stopped, and the audience began to shift, itchy. It was supposed to start at eight, right?

A petite Asian girl came on to the stage and clumsily made her way to the podium, wearing a form fitting grey dress, black leggings, heels, and

a blonde bob with fierce bangs. The audience erupted into applause, some stamping, some brought nearly to tears with laughter.

The girl flipped her hair, put a hand on her hip, and introduced herself: "Hi everybody, my name is Lulu Lemon, and welcome to Cooper Union's first ever Drag Race!"

Emcee Lulu Lemon, four drag queens and one drag king, all sickening, left an audience that filled half the Rose Auditorium gagging on their eleganza. Lulu Lemon, Rosic, Erika, Benedick O. Steele, and Harry Vagina stomped the stage, kicking off the drag race with a runway walk to RuPaul's "Cover Girl (Put the Bass in Your Walk)."

Events of the night included a literal race around the Rose Auditorium, a lipsync to Carly Rae Jepsen's "Call Me Maybe," a group twerk to Azealia Banks's "212", and

a pole dance. There were more than a few standout moments: Erika, serving up middle aged Asian mama realness, conquered the lap dance competition, leaving Benedick O. Steele covered in lipstick; Rosic's flawless harassment of the audience, complete with winding and grinding on the mainstage; Benedick O. Steele giving all the queens a turn.

Most impressive, was Harry Vagina's multiple surprise wardrobe changes, transforming her outfit from red carpet couture to daytime drag to Kinbaku swimsuit fierceness.

After all was said and done, the audience voted Harry Vagina as the winner, who won an Amazon gift card. The night was great fun, a welcome change from the doldrums of an often busy and flustered existence here at Cooper. Many look forward to the return of the Cooper Union Drag Race in the upcoming academic year. ◊



(photo credit Jenna Lee)

*Peter Cooper*  
 IN THE FUTURE



EPISODE FIVE

## Comic: Peter Cooper in the Future

BY JAKE POTTER (ME '16)

