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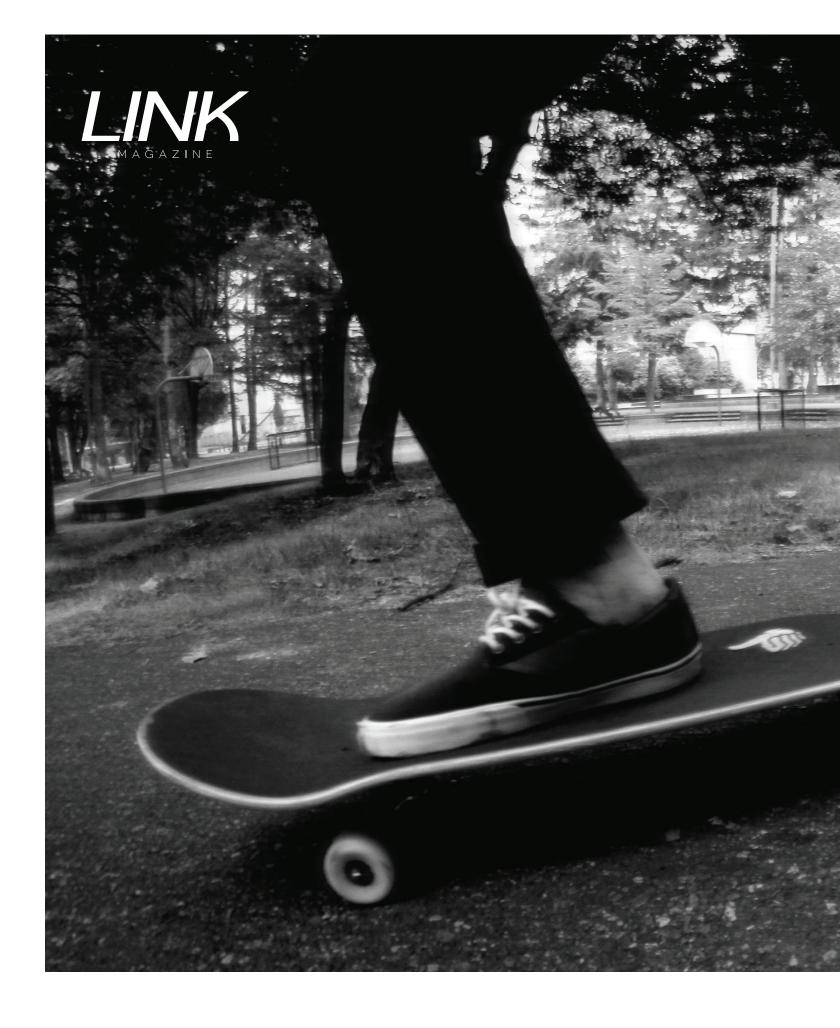
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GEARED UP Stand





Introduction



Well, well, well. Here you are at BCIT. Who knew, right? Or maybe you're back for another round. Either way, you are on your own personal journey and whatever it was that led you here, it likely happened for a reason. So follow your instincts and keep going.

It's not going to be easy, and you will be pushed off course. Or maybe a rock gets stuck under your wheel and you fall flat on your face. Things might get more difficult than you expected and self-doubt will kick in. But these are all fleeting moments, and it's important to know that everyone feels them at some point. In moments like that, we reflect on things we've done that we are proud of, like making this issue of the magazine. Almost all of those memories are filled with uncertainty, but persevering is the real accomplishment.

Classes can be stressful, so take care of yourself. Love who you are and be the person that you need around you. If you are able, be that person for others. We're all in this together — just make sure you've got your own oxygen mask on first.

We hope that throughout this year, in these pages you find some inspiration from other students, and feel a strong connection to their stories, their photos, and their art. If you're so inclined, open up to us, tell us what's on your mind, and we'll work with you to get it out into the world. If that's too much to ask, at the very least we hope you'll be entertained while waiting for the bus, for a class to start, or your friend to find a parking space.

Welcome. This should be fun...

— LINK magazine



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LINK is published 8 times annually

by students at the British Columbia Institute of Technology (BCIT). We feature exceptional people in our community, big ideas in a changing world, and evolving social dialogue. We welcome writers, photographers and artists of all backgrounds and abilities. Our purpose is to provide a collaborative platform for student expression, and to connect you with one another's stories and experiences. Printed editions are distributed to all 5 BCIT campuses and additional content is published online at:

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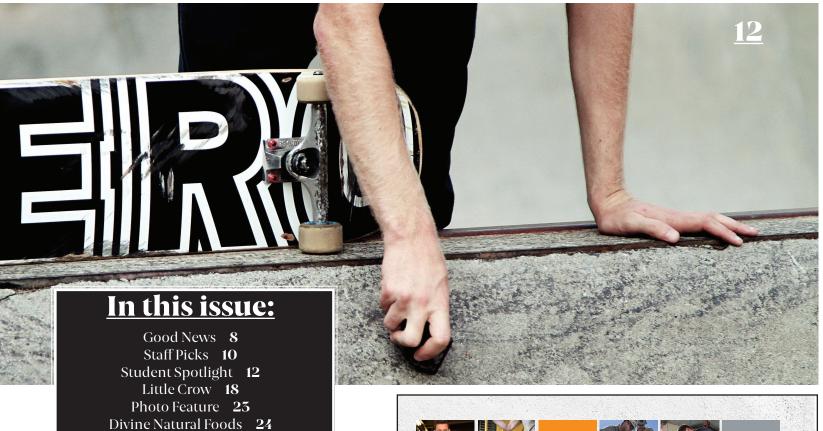








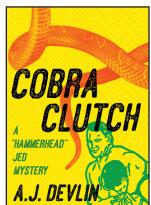
"Their only limb was a little rubber arm that clutched a pen, and their heads were digital cameras."



"Photography is an emotion I use to capture my perspective of reality."

5 Robots Named Paul 28 Blurring Reality 34

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New Student Workwear & Uniform Discount

Students in the trades and hospitality programs now have access to a 20% discount voucher at Mark's retail stores

> This voucher is available at BCIT's bookstore. Ask an employee about the discount.

It's easy, use the voucher on pre-selected products based on your enrolled program. This is a limited time offer available during select days at the start of every fall and winter semester.

Mark's Commercial is the business-to-business arm of Mark's. We're here to help make your program experience easier.





September is Terry Fox Month.

With an official proclamation from the City of Burnaby's mayor Derick Corrigan, the month of September has officially been deemed Terry Fox Month. The hope is to build on the \$750 million+ already raised for cancer research since Terry attempted to run cross Canada 37 years ago. This year, Burnaby has three Terry Fox events, including the big run on September 16 which to-date has raised \$390,000.

Register to run or volunteer: www.terryfox.org

Dogs w/ jobs.

I'm sure we're all familiar with drug dogs at the airport, the ones trained to sniff out narcotics and weapons, but here's one pooch looking to break through the fiendish stereotype. YVR now has its very own runway pooch named (wait for it) 'Pilot,' whose job it is to scare away birds that could potentially fly into aircrafts. Who would've thought there was a career in barking at birds? According to Pilot's co-worker Josh Ng, he is indeed a good boy, and a blast to work with. When Pilot, or other dogs at the airport, retire from YVR, they've got four different career options open to them: PTSD dogs for veterans/first responders, service dogs, hearing dogs and accredited facility dogs.

Yeesh. I'm still trying to get just *one* callback on my resume...



 $image\ courtesy\ \textcircled{a} YVR Airport\ on\ Twitter.$

good news



I know. It's pretty hard to find anything good about the devastating wildfires that have become the summer norm in Western provinces, but at least one crew of people are encouraged by the sign of scorched earth and are doing their best to make the most of a grim situation. A recent CBC News report followed a team of archaeologists into a provincial park in Southern Alberta where they are making some really fascinating discoveries about the Indigenous people that lived there for thousands of years. Now that the vegetation is all gone, new data has been revealed for the first time and is starting to rewrite the history of the Blackfoot. New trails, evidence of bison, and trading beads used in early interactions with Europeans show that people have endured here before, and people will be undoubtedly return as soon as all the smoke clears.

learn more at: www.cbc.ca

People actually use those bike lanes.

Unless you're a Downtown business owner who thinks that people on bikes don't buy things, or an impatient driver who begrudges a short pause before they can tap their tiny piece of metal and rocket off at 50 km/h in a 2-ton spaceship, you at least understand the value of good bike lanes. Vancouver Mayor Gregor Robertson may be on his way out, but his legacy for lanes will live on, and like it or not, a recent analysis showed that cycle traffic in the areas where the new lanes drew the most ire, is actually up! Meaning: more and more people are starting to see the benefits of getting to work with lungs full of fresh air, and a morning untainted by that mean spirit hiding inside all of us, just waiting for one person to cut us off on the Burrard Bridge. Conclusion: More bikes, less fights!

see the stats: vancouver.ca/files/cov/Bike-lane-stats-by-month.pdf

don't take our word for it.

What better way to start the school year than someone else telling you what to do, right? Well hey, you're going to be too busy to know what's really good, and life's too short for bad food, boring books and shitty games, so let us handle this one. Here's a list of treats for your ears, eyes, mouth and mind.

eat this.

Chickpea 4298 Main St. Vancouver

www.ilovechickpea.ca

@(a)ilovechickpea

The irony in this vegetarian gem, is the way they ruthlessly snatch the hearts right out of every skeptical meat-lover who walks through the door. Seriously, get the 'Schnitzelonim' and Barbie Barbecue will be singing the tofu tune by the time you finish your meal. The best way to enjoy Chickpea is with a group of friends, and a whole table covered in shareables. The atmosphere is lively and the staff are beyond friendly. Plus, with a menu featuring a bevy of gluten-free options and a decent craft beer list, it's easy to include all your picky people at one happy table.



— dan post

play this.

Dead Cells Steam/ Xbox One/ PS4/ Nintendo Switch (motion twin) Dead Cells is a rogue-like/Metroid-Vania hybrid that has smooth, tight controls, a beautiful soundtrack and a charming style! The game is about a collection of "Dead Cells" that reanimate a corpse in the dungeon of a castle and you must fight your way out. You collect cells along the way by fighting enemies, finding secrets and defeating bosses. Everytime you die you spawn back in the dungeon and the castle's layout is completely different. You lose your progress but there are permanent upgrades you unlock which never makes you feel like you are wasting time when you die on a run.

For fans of: The Binding of Isaac, Metroid or Hollow Knight.

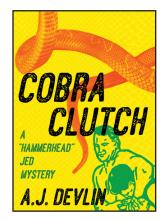


- kareem gouda

read this.

Cobra Clutch A J Devlin (NeWest Press) Cobra Clutch introduces us to "Hammerhead" Jed Ounstead, a former pro-wrestler turned private investigator. A case involving a kidnapped snake turns into murder, and drags him back into the world of wrestling he's been trying so hard to disassociate himself from. The book uses Vancouver as a backdrop, but the writing really shines when the author transforms places into fictionalized versions of themselves. The Blarney Stone turns into The Emerald Shillelagh, where the owner and only bartender is renown for pouring the perfect pint of Guinness.

For fans of: *Invisible Dead* by Sam Wiebe, *The Lost Ones* by Sheena Kamal, and *Cold Girl* by R. M. Greenway.



— sean murphy

hear this.

A Room Inside The World
Ought
(merge)

Canadian art punk quartet Ought released their third studio album earlier this year and it's a banger. Ive liked these guys since *More than Any Other Day* came out in 2014. This time around, they've added some drum machines and synths to really bring out that Talking Heads influence. One of the singles, Desire, spawned an EP called *Four Desires* featuring a rework by each band member.

For fans of: Protomartyr, Nap Eyes, and Yo La Tengo.



sean murphy

watch this.

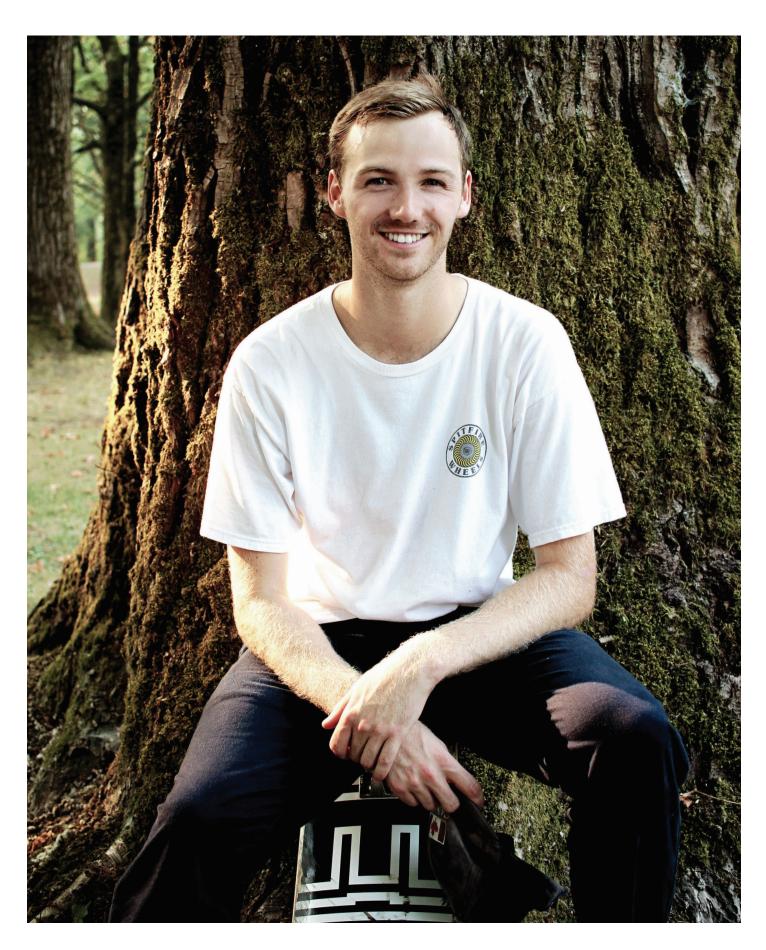
Queen of the South (USA network)

Based on the best-selling novel *La Reina del Sur*, USA's *Queen of the South* follows the story of a magnetic and confident woman named Teresa Mendoza. Teresa makes her living as a money changer on the streets of Sinaloa, until she falls in love with drug dealing Guero. The two dream about their future until Guero is unexpectedly murdered. Guero's death forces Teresa to run from Mexico and seek refuge in Dallas, Texas. After arriving in Texas, Teresa is forced to team up with the same cartel that killed her boyfriend and must rely on her street smarts, a loyal pal and a notebook to survive.

For fans of: Narcos, Breaking Bad, Weeds



— stephanie bohn



student spotlight:

Michael Ray BCIT Nursing // Amateur skateboarder

words and photos by **dayna weststeyn**

Meet **Michael Ray**, a BCIT Nursing student and sponsored skateboarder. Michael perfectly demonstrates how two wildly opposite interests are able to balance each other out and keep life interesting. Skateboarding provides the perfect break from a heavy courseload and clinical experience, while still allowing him to continue with nursing and his passion to learn about the human body. Despite being so busy, Michael manages to remain hardworking and humble. Or as one of his friends put it: "he's the best."

Where did you grow up, and how did you get into skateboarding?

I grew up in Tsawwassen BC and I first started skateboarding when I went on vacation with my friend. He brought a skateboard with him and all I wanted to do was skate the whole time, so I just bought one and got into it.

What level are you at with skateboarding? Are you getting paid?

So right now I'd be considered an Amateur skateboarder. I do get some compensation from sponsors. My sponsors are Zero, Spitfire, Thunder, Volcom, Etnies, Bones, Happy Hour, Stance, and Bro Style.

What kind of media coverage do you get?

Yeah so this whole sponsored thing came about from meeting people while out skating, and just people asking me if its something I'd be interested in — marketing myself in that way. I'll film video clips and shoot photos for magazines and their logos will be on a shirt, or on a board and that's like advertising for them. I just had an interview come out for *Skateboard Canada* (SBC). Other than that, I film video parts for magazines and film video parts for sponsors, that sort of thing.



Is skateboarding part of your career path?

Right now I'm really happy with all the opportunities skateboarding has given me. It's always just been a passion and I've been really lucky to have opportunities come my way. I've been able to travel a lot because of it. It's helped fund a little bit of my schooling, but ultimately I do want to end up in a nursing career.

What are some of your biggest accomplishments in your skateboarding?

Probably any interview I've ever had I've felt proud of, any video part I've felt really proud. I've won a couple contests, things like that.

Have you been on any cool team trips with your sponsors?

Yes! I went to China in 2011, I've been to California numerous times, been to Montreal, Toronto, Alberta, I've been to Arizona, I've been to Spain, Next week I'm going to Boston.

What's been your favourite trip?

My favourite trip was probably China. It's just really cool skating somewhere that's very foreign.

What motivates you to keep pushing ahead with your skateboard career?

Just how much fun I have doing it. It's great because I love my school and how it challenges me, but at the same time, I can get really tired out with school, just kind of burnt out. So sometimes this other kind of passion is also good. It pushes me when I'm ready to get back into school - say after a summer break. It's a lot easier to say, 'I've had a good summer skating, now it's time to dive into school.' And when it's time to have a break I'm like, 'sweet I've really worked hard at my school and now I can skate and have fun.'

Where do you see professional skateboarding headed in the next 5-10 years?

Well skateboarding is going to be in the 2020 Olympics in Japan. It's the first year that they are bringing it there. A

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lot of people are unsure what that will mean for skateboard culture, what it will mean for the skateboarding industry.

There are upsides to it and downsides. Some people see it as being too commercial for skateboarding, which has really raw 'Do It Yourself' roots. Skateparks were not a thing back in the day, so it was a lot more of a core scene, whereas now its like, 'oh wow skateboarding is in the Olympics, how did that happen?' I guess a positive thing is that having more mainstream media involved in skateboarding is going to get more skateparks built, more facilities to skateboard, more support for skateboarders that are trying to pursue an Olympic career. You could talk to four different people and they'd all have different views on it.

You don't want to purse something like the Olympics? No, not really.

Tell us about your program. Why did you choose to enroll at BCIT?

I heard BCIT was great because they are very focused on practical skills, which is really how I wanted to learn nursing. I figure it's much more beneficial to me when I'm actually doing something versus just reading about it. I really appreciated that they spend a lot of time doing hands-on work; they really encourage students to think for themselves and not just do what's expected. They really want you to build your own critical thinking skills so you can make decisions on your own without having to just follow orders.

Do those worlds — nursing and skateboarding — ever collide for you?

Since I'm a student nurse, my scope is really limited. There's a lot I can't do without a license. I don't really find it crossing over. Occasionally though, like lets say I have a semester coming up, I'll kind of take it easy on skating. I don't want to injure myself and not be able to go to clinical – that sort of thing.

What is your ideal work environment?

Ideally I'd love to work somewhere where they support learning; nurses getting further education. The one thing that happens in a lot of work places in nursing is horizontal violence, where nurses kind of bully each other or act unkind to each other. So avoiding that kind of work environment as much as possible. Because I think if you can get along with your co-workers, you're working better, and it shows so much benefit for patient safety and patient care.







How has BCIT prepared you for your field?

Right now I'm in my sixth practicum. All my practicums are 16-weeks. I've had tons of hands-on time. They even prepare me for my licensing exam, which is called the NCLEX (National Council Licensure Examination). 80% of the exams I've had at BCIT have been NCLEX-style, to prepare us for the licensing exam.

Why did you get into nursing?

In high school I really liked biology, but I wasn't sure I wanted to go to school for anything because I was skateboarding so much, and there was a lot of opportunity there. So what I did was, I did a year of General Studies at a college, just to kind of figure out what I liked. After I did that I realized that I really liked learning about the human body, and I volunteered at a hospital for about a year. I saw what the nurses were doing and I thought that was what I wanted to do, so I applied to BCIT. It actually took me a couple tries to get in, because the program is so competitive — everyone wants to go to BCIT. So third try I got in; I found out right before my birthday that I got in. I jumped for joy.

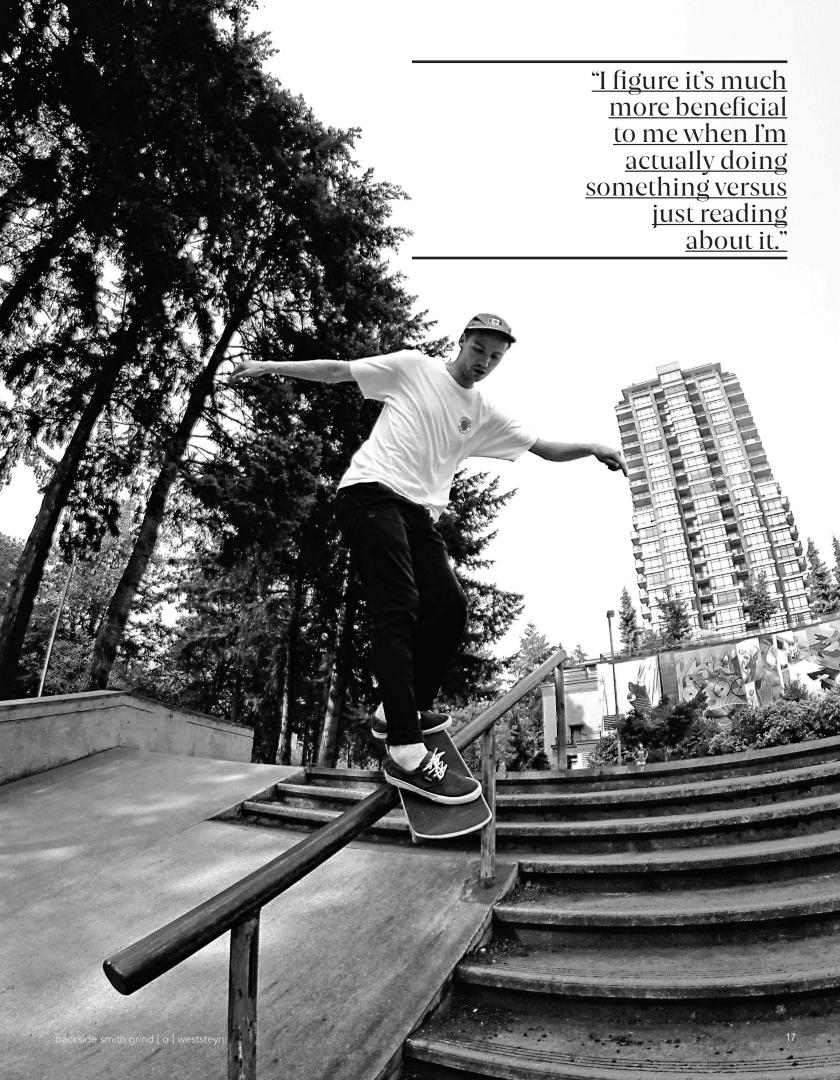
What type of nursing do you want to pursue?

I've done some specialty courses working in Cardiology, so I'm going to be doing a placement on a cardiac unit – it will be the fall 2018 term.

If you could get paid to skate full-time, would you quit nursing?

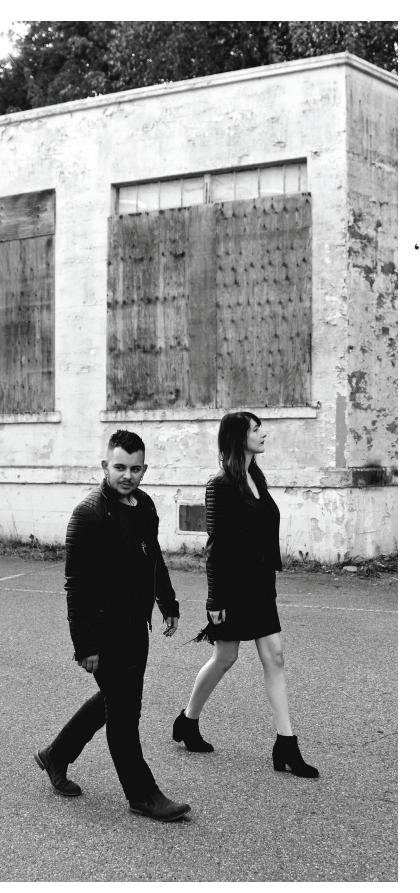
I think it would depend on what was going on for me at the time. Ideally, if I had a really awesome nursing job lined up, I think I'd go with that. But at the same time, my body isn't going to be healthy forever. I'm not going to be able to jump down stairs and rails when I'm 30/40 years old, so its always something I think I'd do for awhile and come back to. But ideally, if I found the right [nursing] working environment, I'd like to just stick with it.

Follow Michael on Instagram **@frickimsorry** and get stoked on videos and photos featuring some truly talented skateboarding.









Editor's note:

Emily was unfortunately busy on the day of our interview, so I sat down with just Kas who (as her husband) was comfortable speaking on their behalf. Later, Emily joined our photographer on location at Coquitlam's abandoned Riverview Hopsital.

Can you tell me a little bit about your experience with Music Heals and 'Covers for the Cause?'

Kas: So we got involved in that pretty early on. We knew it was going to happen, and we decided that we really wanted to go hard for it. We'd taken part in it earlier in the year, but

'There were a lot of emotional things I had to deal with, that resurfaced through this. It was a really cool, weird, allencompassing journey."

we didn't really have it in us to embrace the challenge and the cause. This time around we decided we're going to do it. I was a patient at GF Strong, which is a rehabilitation centre in Vancouver for acquired brain injury. I was an outpatient there for six months, and they have a music therapy program. We thought it would be amazing to give back to a program that changed my life; that literally helped me continue with my life. So we contacted them and they were super stoked, and they decided to bring us on.

We ended up raising I think just over \$6,500 dollars for them, which is amazing. The in-house music therapist there actually invited us to GF Strong, and she sat down with us for a couple hours and was just showing us all of this footage that she had throughout the years of music therapy, and the techniques that she uses with different patients. The progress is amazing. I think that was the most rewarding part of the entire thing, just going into GF Strong and seeing exactly where the money was going, and how effective it really is. As much as I supported music therapy, I didn't really understand how drastically it could help someone in a rehabilitative manner. It's pretty crazy.

Music accesses all different parts of your brain, right? Totally. I think the one thing that just blew my mind was,

there was a man who had a severe head trauma, and lost his ability to communicate. It was frustrating, because he could not talk. But singing and talking come from different parts of the brain, so a particular type of therapy, [that uses] singing, got him to emulate, sing vowel sounds, and eventually enabled him to sing-talk and communicate. He eventually got some of those talking sounds back.

A different music therapist in Vancouver works with burn patients. The story is on the Music Heals site and it talks about this incident where she walked into a room and this burn patient was crashing, like heart going a million miles a minute, about to code, and she played a song matching that heartbeat, a really fast-paced song. She slowly went

from song to song, right down to a Sarah McLaughlin song, and the heart rate declined with the music. It was just crazy.

Wow. That gives me chills.

Yeah, I get chills every time I think about it. Talk about the power of music.

Were you involved with music prior to your experience at GF Strong?

Funnily enough, I wasn't at all. I wanted to be a

tattoo artist. So I'd sit down and draw for like five hours nonstop. After my head injury, I couldn't sit down and focus. That release that you get in an activity tlike that, I couldn't find it in art anymore. And so I just happened to have a guitar lying around and I started playing. Post-brain injury, music became my outlet, my release.

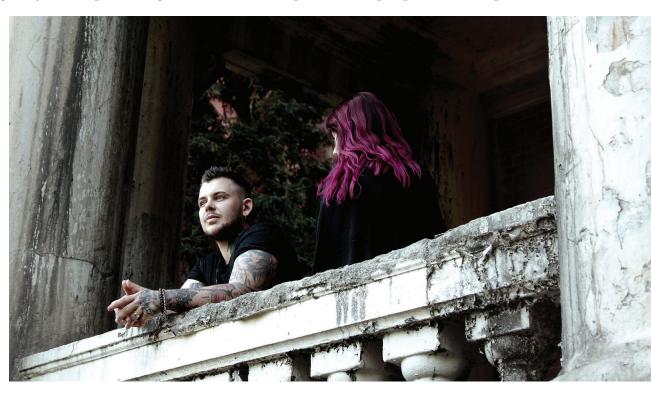
So this is really personal for yourself as well.

Absolutely. It kicked up the experience of going back to GF Strong. It made me realize a lot more about my head injury, and these effects that I didn't even realize were due to my

head trauma, and I'd been frustrated with recently. So it was a really personal moment, but it also brought a lot back, and there were a lot of emotional things I had to deal with that resurfaced through this. It was a really cool, weird, allencompassing journey, just being part of it.

So I think I learned through Music Heals that \$15,000 is someone's music therapy budget for an entire year. Have you gotten to the point where you've seen where your money's going to go, or met anyone who's been affected by it?

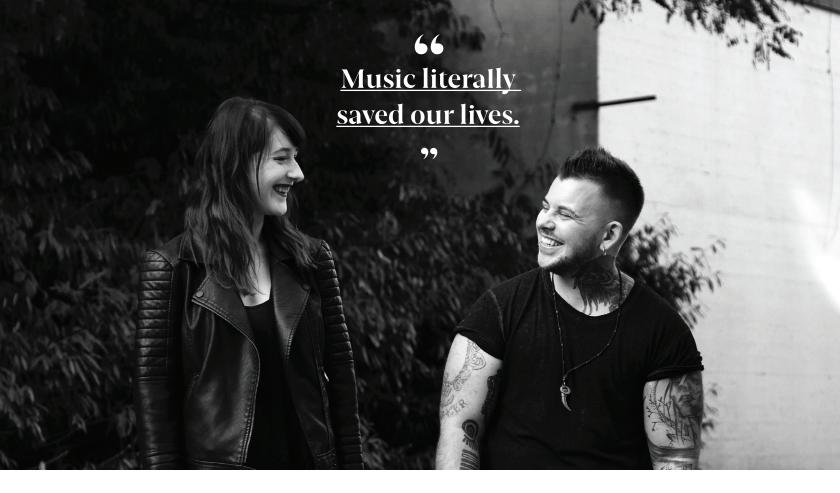
We haven't met anybody who's been affected by it, but just meeting with the music therapist, [Katherine Wright], at GF Strong, we know it's going to her, and we got to see who



she is. The amount of work and passion she puts into her music, I could not be more excited. I know that it's in good hands.

What covers did you do for 'Covers for the Cause?'

The first cover that we did was an Our Lady Peace song called 'Clumsy.' It's an old favourite of mine from high school. That brought back a lot of memories, doing that one. The person who requested it was this guy Steve who saw us play at Vancouver Island music festival. He was actually the first person to donate... He sent this amazing



story, asking us to cover this song in memory of his buddy who had taken his own life. He felt that if his friend had had access to therapists, music therapy, and the music community, that his friend might have come out of it. So we did this cover for him and dedicated it to his buddy, which was pretty amazing, and a pretty powerful story to get right off the bat. It was pretty heavy, but in a liberating way.... We've got a couple other ones that are fun, like we're doing a Prozac cover, which is hilarious. We've also got a Neil Young song, we've got a U2 – just the variety is really crazy.

What's the minimum donation?

For a video, we did a hundred bucks minimum donation, just because of the time it takes to do a video. It takes quite a long time to learn the song, to do it justice. People were just insanely generous with their donations. We had people donate \$250, \$500 – it was pretty crazy how people were willing to donate. Because living in Vancouver is hard enough, making it month-to-month. Anybody who donated, we were so appreciative of. And just the people who were able to donate, maybe even past what they were capable of doing, we just wanted to do it justice.

What's it like to have a total stranger like Steve on board with your cause?

As a musician, I feel a constant wave of self doubt, like: *I don't know. Am I connecting? What are we making? Does this really matter? Are we making a difference?* Those interactions really

kind of keep you going in a sense. It just helps keep that fire bright, keep that self doubt away. It's easy to get bogged down with all those things you have to do, and I think Emily and I, one of the biggest things is that we want to connect, and make a difference in whatever way we can.

Music literally saved our lives. We want to produce something that people can connect with, and that's what we're hoping to do. So with Steve, and connections like that, plus the support we get from our fans and community, really keeps us going.

Would you say that you still use music as therapy?

Oh totally. I don't think I can go a day without music. I'm doing 10 days of silence in October, so we're going to see how that goes. But yeah, music to me is still therapy. On any bad day, I just sit down with a guitar and I instantly feel better.

What's next for Little Crow?

Skookum Festival is going to be crazy. We're terrified, in a really good way. We've got a bunch of our favourite musicians playing with us, so that's going to be cool. We're taking a break from October to December to get ready for recording a full-length that we did with funding from Creative BC. We're hoping next year is going to be the year of album release, tours, and all that. It's just going to be a really busy few months.

If you're heading down to Skookum Fest, be sure to look for Little Crow on the schedule. For everyone else, visit them online to listen to some of their beautiful work. www. littlecrowband.com



Dhanush Amba

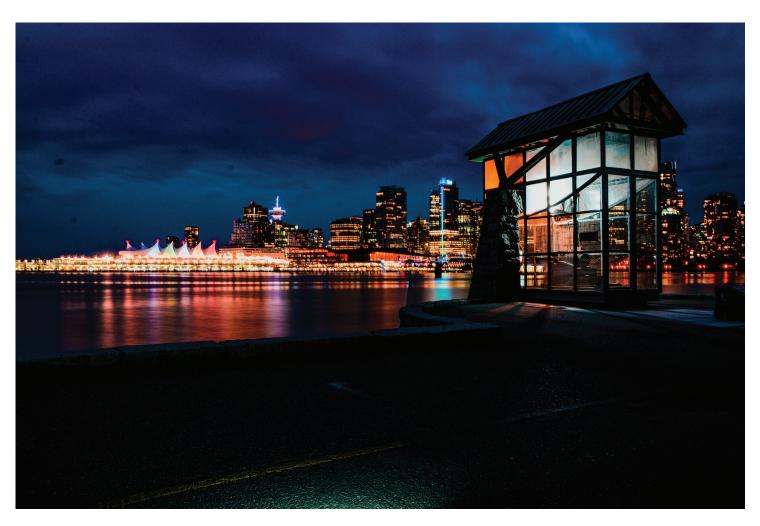
Mechanical Engineering, 2nd year

Nikon D7100



@dhanush_a

"Photography is an emotion I use to capture my perspective of reality and express how I feel about everything around me. It gives me the freedom to see the world differently through a lens and motivates me to go out and explore. What inspires me to do photography is my love towards travelling, other photographers, and the experience it gives me."



Divine Inspiration

BCIT student entrepreneur **Saboor Meherzad** launches a natural foods brand inspired by his Afghanistan roots.

interview by Kareem Gouda

Divine Natural Foods is the brainchild of BCIT's Saboor Meherzad. His products – nutritional mulberry snacks – earned him top honours at both the Enactus Club's Lion's Lair competition and the BCIT Student Innovation Awards. I met up with Saboor to learn more about his journey from idea to product launch. While waiting for him on the Burnaby Campus, I stopped by the school convenience store and spotted his Divine Natural Bars on the shelf alongside titans of the healthy snack market: Larabar to the left, Sunrype to the right. Suddenly, to my right, Saboor walked in. He had a pleasant smile and gave me a firm handshake. He was more kind than Kind bars, so we sat down together to unwrap his past, and mull over the mulberry snack that turned him into an entrepreneur.

First, maybe you can tell me about your life growing up...

I was born in Afghanistan in 1987, around the Soviet era. I don't have much memory of my youth, but I do remember the civil war; bombardments, not being able to leave the house, the noise of jets, the dropping of shells. I grew up in that environment, but my parents decided to leave Afghanistan and take us to a safer environment. We migrated to Pakistan in 1994 [and] stayed there until 2000 when we came to Vancouver. Moving away from that, you get a sense of, "Oh, that is not the norm." You can have peace and live in a safer environment where you don't have to worry about what's going to happen tomorrow.

BCIT STUDEN INNOVATION CHALLENGE

What's your bright idea?







How did you find out about Lion's Lair?

I started at BCIT in 2011 where I did my Wireless
Communications diploma, then I started working at
Telus. I came back to BCIT and applied to the Technology
Management program. My friend mentioned the Lion's Lair
competition. I talked to one of my marketing instructors in
a class which conflicted with the Lion's Lair program, and she
suggested I just drop out of the class and focus on it instead. I
took her advice and, with the support of my student mentors,
I was able to pitch my idea to the judges and walk away with
first prize.

How long did it take you to get from the inception to where the product is now?

It's been about a year. Last year my brother passed away. The idea [first] came to him when he was in Afghanistan. I always wanted to invite him to live here, but my parents weren't in a position to sponsor somebody. I always had this thought that: if I had my own company and revenue, I would've been able to invite him. After he passed away, one night I saw an episode of *Dragon's Den* featuring OMG!'s chocolates. I had seen them here on campus and thought I could come up with a similar product. I didn't feel comfortable selling another high-sugar product, with chemicals. I didn't want to create a product or a legacy that was impacting consumers in a negative way. I wanted something positive.

In Afghanistan we have a product with a base of mulberries. They are high in antioxidants, vitamins and minerals. Legend has it, when the Soviets invaded Afghanistan in the late 1970s, the freedom fighters would take the base of the bars with nuts and water. They used to climb the mountains and replenish their energy. They would remain there for weeks and fight the guerilla war, fuelled by these bites which helped them to hold out and win the battles. I thought, "Nobody has a similar product in North America or Europe, why not bring it here?"

I talked to my family and I started making it in the kitchen, playing around with the recipe and giving it to friends and family to try. Around September of 2017, I talked to my instructor and mentioned to her that I had an idea. She suggested that for the remainder of the class, I focus my assignments around my idea. I was able to do market research, talk to consumers, speak with retailers. I learned a lot, it was great to be able to go out there and understand what is needed. After, we attended farmer's markets and craft fairs. We appeared at 5 - 7 events, and over the course of the events we sold over 300 units. In February, we did Lion's Lair and in May was the BCIT Student Innovation challenge. We went through and were lucky enough to walk away with first prize.

What cost goes into this that people may not expect?

When we first got started we had smaller blenders, but when you are making large quantities, you have to have industrial-

grade blenders and food processors to support that. We realized that partnering up with a co-packager that actually has a facility would help a lot.

The packaging and the development are big parts of Divine Natural Bars, but how do you go about getting your product carried in a particular store?

Reaching out to them and getting to the decision-maker. We've been pushing hard on social media and ensuring that we're actively engaged. Through Instagram, an online natural food and supplement store has shown interest in carrying our product. Our goal was to be carried across Canada by the end of 2019; I think that this partnership will achieve that goal much sooner. We're out west and if we build a partnership in the east, customers can go onto their platform and order there. They can have them delivered to their residence in a matter of days, if not hours.

"They would remain there for weeks and fight the guerilla war, fuelled by these bites which helped them to hold out and win the battles."

I believe we are facing a bit of a public health crisis right now. Our lives are more sedentary than ever and our diet is poorer. How would you say your business aims to address this issue?

A majority of the problem is refined sugar. CBC had a video showing a direct relationship between the rise in refined sugar consumption and obesity, diabetes, and heart disease. We find sugar in other products that we might not notice unless we check the contents of our food. Our goal is to keep the product as natural as we can. The only things that go into making the bars are dried mulberries, nuts and seeds. For a whole package, our bites have only two grams of natural sugar and the sweetness comes from the berries.

I understand that your family was instrumental in inspiring and developing the product because your father has diabetes. These bars are perfectly fine for him to eat?

Yes! He has a sweet tooth and the doctors tell him to avoid sweets. I suggested he have my bars instead [because] you can get your sugar craving without having that adverse effect. It's been scientifically proven that mulberries help lower blood sugar. For people with diabetes, it's perfect.

Does he have a favourite flavour?

He likes all the flavours we make. We have the original, chocolate, matcha and coconut, and he likes them all. It's perfect that he gets to try all of them. So, if he has a chocolate craving, he can have it. We use pure dark chocolate liquor, you can get your chocolate craving without getting a big dose of caffeine or refined sugar.

Do you have anything in the works that you want our readers to know about?

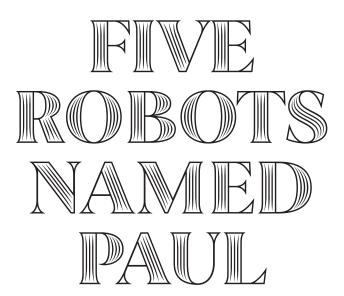
By February 2019, I will apply for *Dragon's Den* again. We went last year, but we were small and weren't in any stores. We were selling online and we hadn't rebranded. We've learned from that experience. It allowed us to be in front of the producers and taught me that if I were to go to another competition, or *Dragon's Den* again, I'd know what to expect. Then we can wow the producers or the judges. It's a learning opportunity.

How important would you say it is for students to know about the opportunities around them while they are learning?

I wasn't aware of Enactus' Lion's Lair competition at all. There might be other students in my position who don't know about it at all. The Student Association's Entrepreneurial Services also hosts workshops, brings in speakers, but I think a lot of people might not be aware of it. There's no cost associated with it and there are a lot of services the SA provides; such as building a resume, doing mock interviews or building cover letters. Students should take advantage of that service.

Learn more about Divine Natural Bars and connect with Saboor online at: www.divinenaturalbars.com/





My brush with art-official intelligence.

by: one human named sean

(Portaits courtesy of the artist)

I've never been all that good at drawing. I like to doodle, but I won't win any awards for it. Nobody will find a piece of my handiwork in a frame in a museum and ponder about my early influences (there is however a nice curation of my scribblings in many of the recycling bins of SE14). I love art from people who really know what they're doing, so when I found out that New West's New Media Gallery was hosting a show called 'Trace' in which you could have robots draw a portrait of you, my weekend plans suddenly changed. I had to see how a machine stacks up to the real thing.

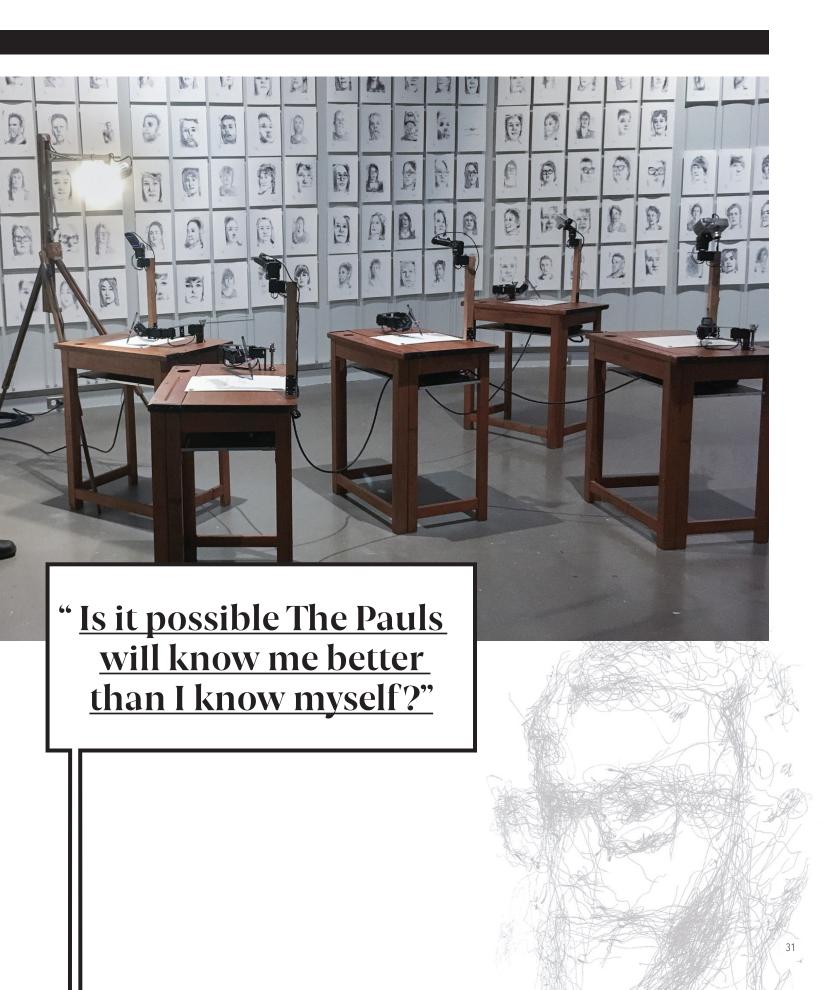
The New Media Gallery is located at the Anvil Centre – a stone's throw from New Westminster Skytrain station and up three flights of stairs. I arrived a touch early for my allotted time slot with '5 Robots Named Paul,' and found a woman sitting in an uncomfortable wooden chair facing five little desks. The sounds of mechanical whirring and frantic scribbling filled the room. Her back was arrow-straight, her chin was raised; she was portrait perfect. From the corner of her mouth she welcomed me into the room. She told me that she lived in the area, and like me, simply couldn't resist a chance to have her likeness drawn by robots.

The robot bodies were composed of vintage wooden school desks. Their only limb was a little rubber arm that clutched a pen, and their heads were digital cameras that wouldn't have been too expensive in the '90s. As I watched the pen arms moving about the page, scribbling and scrawling, the cameras shifted from subject to canvas, subject to canvas. The whirring sounds and the scribbling sounds created a science fiction symphony of few notes.

Five Robots Named Paul' were created by London-based artist Patrick Tresset. "When in their presence, people perceive robots as being somewhat alive, as having agency," says Tresset of his work. "As soon as a robot is in public, it becomes an actor; an actor that can simulate living beings with stylized behaviours that evoke humanness. This is what I play with when creating the installations I exhibit in museums and galleries. I am still surprised how easily we allow ourselves to be fooled by a bit of machinery just because it looks at us and can perform an activity we can identify with." ¹

30 www.linkbcit.ca

Form, Franziska Porsche, DE, 2016: Interview with Patrick Tresset: Simulating Humanness

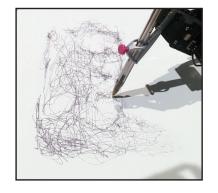


"I wanted to make a joke about electric sheep,

The exhibit was intended to involve participants, but also evoke personification in the robots. The end result, I'd imagine, is to attach sentiment to these inanimate creations. In a way, that is the core of art. Human beings personify objects all the time. There's a pretty believable rumour that that is how car manufacturers design their headlights. I

personally have a habit of apologizing to stationary objects whenever I bump into them. But enough about my charm.

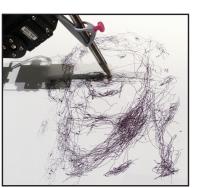
A museum attendant caught me in my thoughts and offered to show me around the rest of the 'Trace' exhibit while I waited for my turn with the Pauls, Hove curated tours; I tend to overlook things and the decline from 'overwhelming' to 'underwhelming' leaves me drained. The attendant took me over to a giant projection screen where a video showed two men seated unmoving. Occasionally they blinked. These are artists So Kanno and Takahiro Yamaguchi.





Next to the screen was a huge whiteboard with different coloured lines covering the top half. These had been created by a contraption full of pencil crayons suspended with wires above the campus. The contraption was fed video from a camera and computer to which it was connected. The intention was to recreate a portrait of the artists in real time, but also "pick up" its ambient surroundings. Visitors had chance to stand there long enough and be immortalized with the artists.

The attendant then lead me to a new section of the gallery hosting a transmitter and receiver. An image of Queen Victoria was being filmed then transmitted into sound by what looked like a wooden gramophone. An ominous hum with gentle beeps rhythmically intertwined filled the air. It was soothing to listen to, a possible side effect rather than





deliberate. Another instrument on the opposite wall received and converted the beeps back into a picture, in a process that makes me wonder how patented Etch-a-Sketches really were.

"Because the instrument converts the sounds of its surroundings, people can disrupt the image by making their own noise, like clapping or yelling." She enthusiastically clapped and sure enough, two white blurbs found a home on Oueen Victoria's nose. "Some people really don't like Oueen Victoria, so it's not uncommon for someone to make noise while the entire picture loads." She lets the words hang in the air. I felt like she was expecting something of me. I

wondered how harshly I'd be judged for pulling out my phone and googling Queen Victoria.

I motioned towards the next exhibition. "And what's this?"

There were three long white monitors covered with black scribbles. What I recognized as code floats up a quarter of the monitor before evaporating. The images alter after each set block of code comes and goes. I couldn't tell you what specific line of code transformed it. The creator of this exhibit,

...just to defuse the tension."

Canadian Gregory Chatonsky (originally from France), is one of the earlier innovators in internet art. He created Incident.net, a collective of internet artists. He also used his fingerprints to create landscapes in a video game engine, which is getting too close to Tron territory for my liking.

"This is 'Deep'," my guide told me. "This is the only AI in the exhibit. These use Facebook for Deep Learning and Google's Source code to examine the artist's earlier drawings and books to recreate them." She motioned towards the screens as they flicker to a new image. "These are supposed to be trees." They do not look like trees.

We wandered back towards the door and she stopped at the robots. "Are you ready to model?"

It seemed sudden, I was still reeling from the not-trees. "Sure am."

The Five Robots Named Paul sat inactive, their desks arranged like an arrow pointing towards my chair. I took my seat and she began winding them up individually, each one whirring to life. I wanted to make a joke about electric sheep, just to defuse the tension, but I realized there wasn't any tension and I was just nervous to greet the future overlords of art.

"Just lift your chin up a bit, to get the right lighting," she guides.

My chin went up and I made a note of my posture. All five Pauls were live now, the science fiction symphony was about to begin.

The first Paul put pen to paper and started sketching. The pen scratched against the wood of the desk. Another Paul followed suit as its lens turned down to inspect its medium, then another. Soon enough, all the Pauls were scribbling away and turning up to glance at me through outdated optics.

My mind wandered while I sat. I wasn't too sure what to expect from the pieces the Paul's will produce. There were five of them, but I doubted any of them would capture the real me. Who is the real me, anyways? Is it possible the Pauls will know me better than I know myself? Will they draw out my character? My ambitions? My embarrassments?

After the Pauls have been drawing me for about twenty minutes, my chin began to sag. I've started slouching. The first robot suddenly stalled for what seemed like too long, and then the arm clutching the pen retracted into itself. The attendant came over to inspect its work and smiled. "This one was really interested in your glasses."

Another mechanical whirring signalled another robot's session has ended.

I began to wonder if any of the Pauls were secretly planning a mean caricature. Any minute now the attendant was going to pick up one of their drawings and laugh at the size of the nose this robot has drawn. And I'd laugh along to, but it would still sting a bit.

Instead, she rushes over to the another one and proclaims, "This one was really drawn to your beard!"

I should have shaved for the Pauls.

Before I could ask to see its work, the centre Paul whirred again, cuing cessation, and their lens shifted down to the wooden desk one last time. The attendant pointed towards the one furthest away from me, still scribbling. "This one always gets hung up on shading, so it takes the longest."

The last Paul scrawled enthusiastically, perfectly mimicking artistic passion. I was supposed to be posing, but I definitely moved at this point in all the excitement. I wondered if it was programmed to display frustration at moving models that can't even make a good electric sheep joke.

Suddenly, the last Paul stopped and its lens looked at me one last time. I stared back at it. Its arm started to retract like the others, but it held my gaze. I'm not ready to say goodbye just yet. Its camera slowly sagged down and a light went off.

It was over. ■

TRACE ran athe New Westminster New Media Gallery from April 27th to July Ist, but there is always something cool going on there. See a list of their current and upcoming exhibits online at: www.newmediagallery.ca.



Technology

Once upon a time, there was but one reality. We just called it: reality. But now things have become, well, complicated. Virtual Reality, Augmented Reality, Mixed Reality... VR itself has come a long way from the gimmicky era of Nintendo's Virtual Boy to where we are finally being able to discern some significant real-world benefits. And then just as VR enters its new era of legitimacy, along comes Augmented Reality (AR), which is already well on its way to becoming a part of your everyday life. When you combine these two, you get a third reality – Mixed Reality – and this is where the lines really start to blur. One unanimous definition of reality is no longer possible. From gimmick to ever-present, Mixed Reality is fast becoming a serious contender to "real" reality.

When it comes to VR, AR and MR, like most people you probably fall somewhere along a spectrum from, "hell no, I have a hard enough time with this reality," all the way up to, "I want to grocery shop with a headset." No matter how you feel about these emerging technologies though, you will certainly feel their effects in the not-too-distant future, and I think there are a lot of good reasons to get on board. As a student at BCIT, you are actually really well-positioned to participate in this growing industry; be it strictly as entertainment, in your academics, or in your career. But first, some definitions.

Virtual Reality (VR) is a computer-generated simulation that immerses the user in a non-physical environment. Augmented Reality (AR) overlays a digital imprint in the physical world. The best example of AR is *Pokémon Go*, the summer-long phenomenon that saw people running into oncoming traffic to catch 'Pidgeys' and 'Ratatas.' (Side note: I almost got smoked by a Prius trying to catch a 'Charmeleon.' I have no regrets.) These technologies are also being used in fields like engineering and health sciences, and the people working on the platform tools think it will completely revolutionize our workforce in the same way computers did. Vancouver will be right at the centre of it.

Before we get into all the "useful" applications for these technologies, let's start with the fun stuff. Already there are a number of apps readily available to us, many of which are discoverable on the App Store and Google Play, and run fine on most smartphones with the addition of a \$20 Google Cardboard. Where this stuff gets really fun, is with the use of VR headsets like the HTC Vive. These are mostly used for video games, but also have applications like Google's Tiltbrush – software that can be used to

"The people working on the platform tools think it will completely <u>revolutionize</u> our workforce in the same way computers did. Vancouver will be right at the centre of it."





Google Cardboard

This foldable cardboard accessory turns your smartphone into a VR-capable device. Through the use of apps, you can "teleport" to different environments ranging from the middle of a desert to a live show of Paul McCartney playing "Live or Let Die." Unfortunately there's no way to avoid looking like a cat with its head stuck in a box.

create 5D drawings and has even spawned its own Artists-in-Residence program. The Microsoft HoloLens is a separate device entirely – it falls under the category of MR because it overlays images onto the existing environment. Using this, you could build all the IKEA furniture you wanted (or didn't want) and have the directions appear as a head's-up display. On the consumer front though, as it stands the high price points for these tools are still a barrier to accessibility for those that might benefit from it the most.

James Rout, the Associate Vice-President Education Support and Innovation at BCIT, believes that barrier will dissipate. "I see this technology as becoming more and more affordable," he tells me via phone, "similar to the rollout of smartphones. And we're just starting to see MR rear its head in forms we don't expect." James is passionate about getting more and more students interested in Mixed Reality tech, which is why he wants all BCIT students to have access to a HoloLens or similar equipment. Take a trip the library's MediaWorks and there's a HoloLens just hanging out, begging for you to try it on.

Just last May, CBC Studios hosted the YVR Virtual Reality Film festival. It featured 16 films. In the world of VR, where there's total immersion, how can we tell stories in a narrative way without forcing viewers to focus in one area, or on one specific object or conversation?

I spoke to Jacob Ervin, Program Manager

at Occipital about this, In April, their mixed reality software, Bridge Engine, celebrated its full release. He explained to me how VR could be used effectively to tell a story using the board game-turned film, *Clue* (1985) as an example. "That movie had so many different endings, but using VR, we could change the ending depending on what the viewer noticed. So if you caught Col. Mustard clutching the candlestick, but completely missed Miss Scarlet poison a drink, then that's probably how the film could end, or vice versa."

In the gaming world, VR has had a lot of buzz. One browse on the Steam VR store shows a growing list of titles ranging from *Skyrim VR* to *DOOM VFR* – you can even rock the cowl of The Dark Knight himself in *Batman: Arkham VR*. These games have high ratings, the polar opposite of the critically panned Virtual Boy.

MR is not only for gaming though, and more than ever we're seeing uses in and around the classroom. Computers have long been something that we learn about - how to type, how to fix them, how to utilize them effectively – but what about something we learn *from*? Think about something like YouTube Tutorials and how Google is now taking it a step further with their development of "Google Expeditions." The application promises to immerse students in 'field trips,' like VR visits to the Royal Ancestral Shrine of Joseon or NASA's Armstrong Flight Research Center. Google also uses AR to bring models of planets into the



classroom. Just imagine putting on a headset and seeing the entire solar system in the Great Hall. This is the future William Gibson wrote about in *Spook Country*.

As for your career, and where VR might fit in, BC is already largely considered a hub for technological advancement in Canada, and BCIT has a significant place in it. This

past June, Microsoft
President & Chief Legal
Officer Brad Smith
delivered a convocation
speech to BCIT students
graduating in computer
sciences during which
he said, "I think if we
look a decade into the
future, the economy
of BC is going to be
much more of a digital
and technology-based
economy than it is

today or was a decade ago. I think it is very exciting for the future and the creation of new jobs and especially for those students who are mastering these new skills."

This echoed a sentiment Smith shared with me in a quick interview I did with him that first got me interested in exploring the frontier of MR. "People who use this technology for the first time are going to need to be trained," he said adding, "Ultimately what we're creating is a broad ecosystem. If we think back to the evolution of the personal computer, it took almost a new army of people to train everyone who would work with this technology in those new ways, and this

will be a very similar phenomenon." Rout added to that sentiment saying, "My hope is our students will create these new jobs. We just need to support our students so they're ready for this new arena."

BCIT seems to be gearing up to be a significant player in this emerging industry. Last year, they opened the



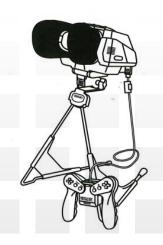
The Lawnmower Man (1992)

Pierce Brosnan, early CGI, and a pre-*Matrix* plot about using VR simulations to level-up? Yes please! 90s-era disability sterotypes aside, this cult classic is a must-see for horror fans, wacky science enthusiasts, or anyone who wants to witness what is likely the first CGI cyber-sex scene in movie history. Consider this the twisted sister to *Reboot*.

"Computers have long been something that we learn about... but what about something we learn from?

doors on our very own TEC Hub at the downtown campus featuring collaborative workspaces for creating platform tools. There are plans now for a high performance AR/VR Media Lab to roll out in the fall, which hopes to be open 365 days a year, 24 hours a day.

Elsewhere in the Lower Mainland, businesses that work in Mixed Reality are booming thanks in part to the federal government launching their Digital Supercluster Initiative and providing \$950 million in funding. This money is going to be matched by private companies including Microsoft and Telus, with an eye to creating more than 50,000 jobs over 10









Above: Believe it or not, these are not stills from games – these are original pieces of art designed using Google Tilt Brush. Various artists ranging from painters to designers were invited to Google for their Artist-in-Residence program. Google then worked with each artist to help develop Tilt Brush and understand its potential, of which evidently there is a lot.

years. BC's Tech industry currently generates \$26 billion in revenue.

On the advice of James Rout, I visited the BC Tech Cube in Vancouver, a shared studio space dedicated to connecting companies working in AR/VR/MR. James currently sits on the Board for the Cube. The space has small offices and desks for programmers to work together or separately, and has a TV area set up with benches for presentations or conversations. This is the environment professionals are working in. There's even a green room with an HTC Vive, where they let me try out Google's Tiltbrush. I don't think I'll be an Artist-In-Residence any time soon.

On the Web Development front, there is a ton of potential. In a world of total immersion and digital overlaying, will consumers remain perfectly content to browse online content in the same 2D format it always has been? Web developers will likely take advantage of the changing digital landscape and incorporate new toolkits. No longer will you order clothes, crossing your fingers they fit right, or order furniture only to discover the dimensions were inputted incorrectly. BCIT students in New Media Design and Web Development will already be exploring this during their third term – thanks to the New Technologies course.

applied heavily into Digital Therapeutics. The best example of this for a long time has been distraction therapy, but through the use of an avatar (a digital representation of the user), it can act as Mirror Therapy and assist a patient's motor system. Altogether, 200 start-ups are expected to be on display. Ever wanted to simulate a surgery? Now's your chance!

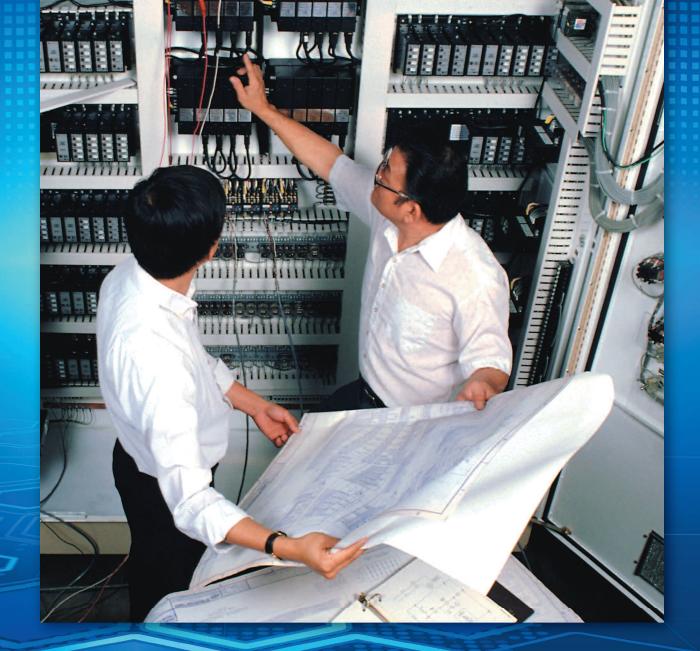
In Engineering, FingerFoodz (a BC-based developer of AR Apps) creates models of semitrucks digitally. This converts a 6-month long process of protoyping new designs into just three days. Japan Airlines also uses AR to teach technicians working on Boeings; they no longer need to keep one out of service.

This is just a small glimpse into the world of MR. I don't have all the answers, I'm learning a lot of this myself. But I encourage you to go online, do your own research, talk to your instructors and try out the HoloLens at MediaWorks. If this is something you want to get into, BCIT offers a course specifically for working in this technology and is a huge name in the growing industry around it. Whether you enjoy new gaming experiences, desire a more immersive learning environment, work completely in this technology, or you're just tired of this reality, MR is here to stay and its applications are still being developed and actualized.

So you're not a tech student. That's fine; because MR technologies are making their way into all kinds of other industries. Take Health Sciences for example. One look at an upcoming event called the Interface Health Conference (BCIT is a sponsor), shows that this technology is being

If I've sparked your interest, check out BCIT's Certificate of Completion course for AR/VR/MR. It's part-time, open to anybody 16 years or older, and the only requirement is a basic knowledge of using a PC.





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