Got Gas?

Literacy in the Information Age

Up, Up, and Away
Superhero Movies are Just Getting Started

A Superhuman Future with Nanotechnology

ASPSU Election Recap
ON THE COVER:
Bust of Aristotle. Marble, Roman copy after a Greek bronze original by Lysippos from 330 BC; the alabaster mantle is a modern addition. "Aristotle Attemps” Copy of Lysippus – Jastrow (2006) – via Wikimedia Commons

The bust of Aristotle is presented on the front cover of this issue of Portland Spectrum to highlight the ancient origins of critical thought. Aristotle was chosen as a reference to Plato’s academy, which would later advocate skepticism under Karneades. Though Aristotle preceded the age concerning Karneadean skepticism, he greatly contributed to the academy’s corpus by developing rules for scientific investigation that questioned the methods of his era for gaining and accepting knowledge.

ON THE BACK COVER:
The statue to Galileo Galilei, by Aristodemo Costoli (1803-1871), outside of the Uffizi Gallery, Florence, Italy. Public Domain via Wikimedia Commons

Galileo Galilei is depicted on the back cover for his unique, perhaps revolutionary conceptualization of the world as a composition of phenomenological instances of natural laws. Galilei believed that truth could be ascertained through resolving observed phenomena into mathematical regularities, what he considered the underlying “language” of the natural world. Empirical judgement was largely unnecessary, in this model, for through study of the relations between foundational concepts of physics, he could accurately predict behavior of future, observable events.
This June presents what will be the last issue of Portland Spectrum for the school year. It’s also my last term as editor. While I won’t be around next year to head the publication, I’m confident you can still expect to see the qualities that interest you about Portland Spectrum in years to come. If it turns out that’s not the case, well, do tell us. We print with the aims of thorough, cited research, subjects of wide value, and a nonpartisan perspective. We think it’s important to know where the facts come from. Even more importantly, we encourage readers to be diversely informed and equally critical to each perspective gained—especially our own.

Part of what contributes to a diversified knowledge base is being involved in discussions outside your niche. Throughout the year we’ve published on topics both regular and irregular; we’ve covered the recent, local avenues of debatable PSU budget allotments, implications of focal policy changes in tuition, graduation programs, and mandatory health insurance. We’ve branched further with issues of environmental decay, veteran homelessness, vaccine regulation, and the evolving ambiguity of government infringement on privacy. The Spectrum has even stepped out into unconventional territories of bird physiology, inspirations in film, futuristic hologram technology, cancer research, and dedicated the full issue in April to an array of histories from around the world.

Going forward I hope to see readership and contributions from an even greater range of students at PSU, from linguists to economists, philosophers to engineers. May our summers be fulfilling, and may we remain eternally critical wherever we go.

Sincerely,

Corinne Hutfilz
This July 26th marks the 25th anniversary of the Americans with Disabilities Act (ADA), a piece of legislation created to ensure access for disabled people across the country. But has it? Many disabled people continue to report access issues and discrimination every day, including here at Portland State University.

PSU recently secured $70M to renovate Neuberger Hall, a building that houses the English department, Math & Statistics, the Financial Aid and Records offices, Philosophy, and more. The university’s Office of Finance & Administration has identified problem areas from leaky roofs to inaccessible mezzanines. But many buildings on campus require repair. Mariah Leewright, a student leader and graduating senior, immediately identified one in particular: “The worst building that I access on campus right now is the XSB.”

The Extended Studies Building (XSB) is home to the School of Gender, Race, and Nations (SGRN), which includes the identity-based programs: Black Studies; Indigenous Studies; Chicano/Latino Studies; and Women, Gender, and Sexuality Studies. Built in two parts during the 1950s and ‘60s, the building is largely inaccessible under ADA guidelines: for instance, the door leading to the parking lot is not wheelchair accessible. Additionally, many of the professors in the SGRN have offices on the second floor of the building, but there is no elevator, only a narrow, steep flight of stairs.

Some faculty are willing to be flexible, Leewright said. “We meet other places, because I can’t get to the second floor; I use a cane.” But accessing official accommodations was a struggle: “One of the problems I’m going against is documentation. [The Disability Resource Center] is running from a very specific legal standpoint, and because I don’t have documentation there’s not much they can help me with.”

According to the Provost Sona Andrews, 4.5% of the student body has registered for services through the Disability Resource Center (DRC), but the actual percentage of students with disabilities on campus is likely to be higher—perhaps much higher. According to researchers at the University of Connecticut, only about 35% of students with disabilities choose to disclose in higher education, even if they need accommodations in order to succeed.

Along with the renovation of Neuberger, PSU has marked $20M for renovation and expansion of XSB. But according to a Capital Construction Funding Request submitted by the university to the state, PSU has a backlog of $173M in maintenance needs, not including accessibility improvements, replacing hazardous materials, or structural improvements. Nearly every building on campus features some access issue: the front entrances of Ondine, the Millar Library, and the Science Research Teaching Center all have stairs, with accessible entrances around the corner or behind the building. Bathrooms throughout the library, Neuberger, and Cramer Hall lack mechanical door buttons, and there are frequent complaints in the halls about slow elevators which frequently malfunction. Students with
disabilities report difficulty navigating the campus.

In the realm of hidden disabilities, however, more progress is evident. PSU is one of a growing number of universities dedicated to scent safer spaces. In a public value statement, the university declares:

“Portland State University supports sustaining healthy indoor air quality. In the interest of promoting the health and safety of the University’s students, faculty, staff, and visitors, the campus community is encouraged to maintain a fragrance-free environment. Please refrain from using scented personal care, laundry, and cleaning products. Thank you for your consideration of others in providing an environment in which every person on campus can feel safe and comfortable.”

By fall 2015, the university plans to be a smoke and tobacco free campus. Additionally, the university’s Office of Academic Innovation partners with the DRC to help faculty create universally accessible course materials.

Resources for both staff and students on campus include the Disability Resource Center and the Office of Global Diversity & Inclusion. Charles Lopez, Interim Chief Diversity Officer, emphasized the interdepartmental efforts to create access: “Both of the sub-offices of Diversity Advocacy and Equity & Compliance work together with many other departments such as Human Resources, Facilities, the DRC, etc. to ensure that PSU is accessible for students, faculty, staff and visitors.”

Still, some students struggle to get their needs addressed. The university settled a claim in 2014—only a year ago—by a deaf student named Cindy Leland, who claimed that the university discriminated against her because of her service dog, and failed to protect her from harassment in the student dorms. According to the Fair Housing Council of Oregon, the settlement included setting aside $19,000 for students who have been mistreated because of their disabilities. But how can the university address student needs if only 35% of students disclose? What would it take to make a truly accessible campus?

“There’s a cultural shift that needs to happen,” Leewright said, “to make accessibility a primary concern on campus, because right now it doesn’t seem like most people on this campus care.”

With renovations coming, the face of campus accessibility will change in the coming weeks and years. As the 25th anniversary of passing the Americans with Disabilities Act approaches, the PSU motto comes to mind, “Let knowledge serve the city,” to serve the city, it’s vital that PSU go above and beyond to provide access for all.
In 1996, Robert Freitas of the Institute for Molecular Manufacturing in California, put forth a bold, and startlingly detailed proposal: artificial red blood cells at the 1 micron scale, composed of parts by the nanometer. Even more extraordinary were the theoretical consequences of such a proposal. Freitas' nanomachines would break the boundaries of normal human respiratory capacity by orders of magnitude, allowing for superhuman breathing with a single injection.

Perhaps the most obvious medical use for these machines is the regulation of respiratory diseases. If proven functional in the ways Freitas describes, both inborn and acquired diseases ought to be relieved by the strong, easy breathing that respirocytes would allow. Respirocytes could also find immediate use in relief for anemic patients, even going so far as to aid cancer treatments by profiling the oxygenation of tumorous tissues—current chemo-therapeutic agents often require tumorous tissues to be superoxygenated. Respirocytes’ supplementary breathing capacity would also enable more recreational, superhuman feats: imagine swimming underwater, four hours at a time without surfacing; imagine sprinting for even longer.

The gas exchange system that respirocytes would intend to improve resides in the red blood cell. Red blood cells are the couriers of oxygen and carbon dioxide through the body, with capillaries inside the lungs acting as the transport terminal. As a cohesive mechanism, molecular oxygen will first diffuse freely through capillary membranes in the lungs. It will then be absorbed by the red blood cells, where it is bound to hemoglobin, the abundant protein inside erythrocytes that confers the vibrant redness to blood, and shuttled off through the circulatory system. The gas molecules can dissociate from hemoglobin and exit the cells when carbon dioxide enters. This happens because carbon dioxide, rather than binding to hemoglobin, most often will react with the water inside the cell to form carbonic acid. The carbonic acid readily breaks down into bicarbonate ions and hydrogen ions, making the interior of the blood cell acidic. However, hemoglobin is evolved to release its bound oxygen by taking up the free hydrogen ions, instead. What drives either gas—oxygen or carbon dioxide—to diffuse into tissue
or blood, is a matter of the difference in pressures of those gases. The pressure of a specific gas is called that gases’ “partial pressure.” Altogether, it can be said that the diffusion of oxygen and carbon dioxide in and out of the blood accords with the gas diffusion principle, which states that a gas diffuses from an area of higher partial pressure to an area of lower partial pressure. Where a tissue has a high pressure of carbon dioxide, that gas will readily diffuse away and into the blood cells nearby who have a lesser partial pressure.

On the human scale, an inhale is a raise for the partial pressure of oxygen in the lungs, and an exhale is a decrease in the partial pressure of the carbon dioxide that oxygen was swapped for. Unfortunately, only 25% of the oxygen stored in red blood cells for transport is actually available to the tissue that needs it, according to Pournami Gouthaman, biochemical engineer from University of Kerala, India. With respirocytes, the full 100% of oxygen absorbed could be contributed.

This would be achieved mainly by the respirocyte’s immense internal packing density, compressing oxygen and carbon dioxide molecules at 1,000 atmospheres. To compare, the packing density of regular red blood cells sits around 0.51 atmosphere, and only 0.13 atmosphere is able to be distributed to the tissue. Otherwise, respirocytes would, theoretically, operate similarly to red blood cells, in that their bottom-line function is the same: to swap oxygen for carbon dioxide where needed. But unlike natural cells, Freitas notes the difficulty in relying on passive transport (diffusion) to shuttle the gases between tissue and respirocyte, due to several requirements. For example, the correct gases must be absorbed and released by the respirocyte. It follows that those gases must be able to be distinguished and sorted, and most importantly, the respirocyte must respond to the partial pressure differences throughout the body.

These processes must be active, he explains, meaning that there must be some computerized mechanism that senses the environment of the respirocyte, and responds accordingly. To address this, Freitas proposes employing a series of molecular sorting rotors, not unlike a kind of nano-meter-scaled waterwheel system. These rotor series would coat the outside of the respirocyte, and serve to usher correct gas molecules in, and incorrect molecules out. The “buckets” of these rotors would collect outside molecules, then revolve them into the respirocyte where they would be released into the next rotor in. That rotor would pass the molecules onto the next rotor yet, until the molecules end up inside their proper storage chambers. This series comprises a purification system, because each “bucket” would be shaped, physically and chemically, to best suit the type of gas molecule it aims to accept. It is the same scheme employed by natural proteins of the body, who have evolved pockets or channels within themselves so specific that single-atom differences in substrates they normally accept will be ejected and discarded.
It might be questioned how, at the extreme packing density these gas molecules would arrive at in their respective chambers, the respirocyte wouldn’t burst or float at the top of the blood stream. The question of bursting can be answered simply—make the walls durable. At the scale that respirocytes are intended for, the best material would be that which is highly compact and chemically rigid; proposed nanostructures commonly utilize atomically flawless diamond or sapphire. To avoid floating, Freitas believes the use of a ballast could keep each respirocyte centered in the blood vessels. A ballast is often used in containers meant to float above water. It is a tank that sits at the bottom of the container, below the water level, filled with water itself to lower the container’s center of gravity.

The activity of the respirocyte, Freitas suggests, could be controlled by the hull’s ability to pick up on acoustical pulses of pressure, activated externally by broadcast signal. Sequences of these pulses, at various intensities and durations, could be translated into data inside the nanocomputer inside each respirocyte. The pulses, as well as the corresponding response via computer, would be powered by an internal battery dependent merely upon glucose and oxygen, both readily available in the blood stream. The exact mechanism remains to be articulately engineered, but in Freitas' design, again the molecular rotors come into play. Here, the “buckets” would be designed for specificity to glucose, and the purified glucose would end up in a fuel chamber, just like the chambers reserved for oxygen and carbon dioxide. Ample power would be generated through the pressurized reaction of glucose and oxygen on board, consuming a mere 5% of the stored oxygen per tankful of glucose. The reaction of glucose and oxygen produces carbon dioxide and water, each quite normal to exist in the blood.

The respirocyte remains theoretical for some of the unsolved problems aforementioned, but also for the basic reason that we currently lack the tools to build it. There exists an ironic problem standing in the path toward nanotechnological flourish: we need nanotech to build nanotech. Certain aspects of the respirocyte are currently possible, but as of now, the world’s smallest computer is still a clunky 0.5 cm. Once we can overcome every hurdle, though, once the details of design, legality, and clinical trial are ironed out, we might expect to be breathing much, much easier than ever before.
Sources:


Portland, Oregon. The mere mention of the city is more likely than not to conjure up abstract images of some magical, disconnected utopia; a place somehow thriving in its own sphere of influence, untouched and untainted. Pure in its embrace of counterculture and its gleeful quirkiness. It is a city associated with a sense of self-enclosure and, as evident by the success of series such as Portlandia that perpetuate its off-beat allure, often the subject of national fascination.

But Portland doesn’t exist on some special wavelength; the issues of the United States at large are very much the issues of our city. Perhaps more so than many would care to admit.

"Police shoot unarmed black man." It is a headline that has been thoroughly saturated into our cultural consciousness. Trayvon Martin and Michael Brown are names that cut our national image to the core: their names, along with so many others, resonate with a force both divisive and unifying. There’s no easy way to write about it. The tension is real, and day by day, it rises. And all the while, the headlines push on, tearing into our “enlightened” modern sensibilities of equality and dredging up a history of prejudice and oppression—and for many Portlanders, that history might somehow seem far from home.

There’s a reason the black population in Oregon is so small, making up only three percent of the state’s population. It wasn’t until 1926 that black people were even allowed to live in Oregon. Founded on an unabashed sentiment of white supremacy, Oregon, granted its statehood in 1859, operated under no pretenses.

Racism and a desire for an all-white “utopia” were pivotal in shaping many of Oregon’s policies for years. Portland State University itself has its place in this heavily segregated history. Vanport, Oregon, known by many Oregonians as the “Negro Project” at the time, was the “largest WWII federal housing project in the United States,” and was “one of only two housing projects in the Portland area that accepted any blacks.” The “temporary city,” constructed in 1942 and wiped out by a flood in 1948, saw the rise of the Vanport Extension Center—a two-year college that opened in 1946 with an initial student body comprised of 220 students. Following the flood, the college was relocated a number of times before taking up permanent residence in the South Park Blocks and gaining full University status in 1969.

The Oregon History Project touches on the aftermath of the Vanport flood, writing that “It would take the court rulings, changes in federal laws, and shifts in social attitudes that came with the national Civil Rights Movement to make Oregon a more hospitable place for non-whites, but the Vanport flood, by confronting people with a clear choice between callousness and compassion, allowed the first trickle of change to flow.”

Suffice to say, change is slow. But sometimes, waiting isn’t an option.

In the midst of national backlash against ongoing reports of police brutality and unwarranted shootings, public outcry demands accountability. In a BBC piece
on the shooting of unarmed black men in the US, Sam Sinyangwe, an activist who founded the Mapping Police Violence Project, took it upon himself to gather statistics on police shootings of all ethnic groups in 2014—a number that totalled 1,149. According to Sinyangwe, the information indicated that “...Ferguson is everywhere.”

“Black people are three times more likely to be killed by police in the United States than white people. More unarmed black people were killed by police than unarmed white people last year. And that’s taking into account the fact that black people are only 14% of the population here.” Sinyangwe went on to state that “We haven’t seen mayors step up and make clear commitments to eliminate the level of police violence in their communities. I think that says a lot about the relative value that they place on those constituents’ lives.”

While Sinyangwe’s lament is powerful, not all mayors have turned a blind eye to this plight. Charlie Hales, mayor and police commissioner of Portland, has long been a proponent for police accountability. Elected in 2012, Hales sought to implement a number of police reforms, including a push towards the active utilization of police body cameras in 2014—a trend that more and more police agencies have been moving towards in recent months in the wake of public distrust.

While agencies have been slow to adopt—and adapt—to the technology, often working under budgetary restraints and with only a select number of officers equipped with the cameras at any given time, a proposal issued forth by President Obama in December of 2014 in light of the controversy surrounding Ferguson saw the allotment of $263 million go toward the cost of purchasing 50,000 body cameras to outfit law enforcement—a sum that would also cover the requisite training of officers to use the technology.

According to the Washington Post’s Editorial Board, “Mayor Muriel E. Bowser (D) has proposed as part of her $13 billion budget for fiscal 2016 that $5.1 million be spent to equip all 2,800 patrol officers.” Though the DC council’s judiciary committee has moved to divert over $3 million of the proposed amount to other programs, “there is no disagreement between the mayor and council about the desirability of body cameras,” and the budget has yet to be finalized.

Regardless of how slow change comes, those with the power to usher it forth have recognized its necessity. Now more than ever, the public has cast a critical eye toward those sworn to protect and serve them. And not just for the sake of the public, but for the sake of the many officers of the law who have found themselves unfairly lumped into what is now perceived by many to be a corrupt system of enforcement. The use of technology such as body cameras is a move that may serve to mend the tremendous rift between the public and the police through unbiased transparency.

The seventh principle of “good policing,” reportedly written by Robert Peel in 1829, states that police are “...to maintain at all times a relationship with the public that gives reality to the historic tradition that the police are the public and that the public are the police.”

One can hope.

Sources


Sink, Justin. “Obama to Provide Funding for 50,000 Police Body Cameras.” TheHill. December 1, 2014.


Believe it or not, the time before calculators is not that far behind us. Many professors teaching today originally learned to do mathematics by hand. If they were allowed to use any device during exams, it was a slide rule. The pocket calculator had a profound transformative effect on the classroom, which shifted the focus from rote memorization to conceptual understanding. The advent of the Internet has created a similar revolution and shift of focus, from memorizing facts to knowing where to find them. The Internet, however, is not nearly as straightforward as a calculator. While a calculator is not likely to give you an incorrect answer, it has become almost cliché to say, “You can’t believe everything on the Internet.”

Whether looking at Wikipedia, online social networks, photographs, or videos, the literate researcher must apply critical thinking skills to separate misleading information from truthful.

Whatever one might think of Wikipedia, the user-editable online free encyclopedia, nearly all of us have used it at one time or another to find basic information about a topic. Using Wikipedia as the basis of research, however, can be a risky endeavor. Because users can edit the information stored in Wikipedia's databases, the possibility of vandalism exists, where misleading information might be included in an otherwise innocuous article. Moreover, it can be difficult to know whether information retrieved from Wikipedia originated from a reliable source, or if it is just the opinion of some anonymous Internet user. Because of these problems, it is generally considered a bad idea to cite Wikipedia in an academic paper, and some instructors will severely penalize any student who does so.

Even in cases where Wikipedia has it right, like any encyclopedia it is a tertiary source. That is, it provides a summary of what has already been said in secondary sources. Secondary sources, meanwhile, are reputable publications that provide insight into primary source documents. As an example, Wikipedia might summarize what has been said in music magazines about a recent album by a pop star. In this example, the magazines are the secondary sources and the album is the primary source. The potential problem that may exist with the tertiary source in this example is that the writer may not be a pop music expert, the way a writer for a music magazine might be.

On the other hand, the volume of useful information on Wikipedia is vast. As it continues to mature, more of the articles it contains become sophisticated and reliable, and consequently become more tempting to use in research. For the literate Internet user in the 21st century, there is a way to use Wikipedia without suffering the wrath of 20th century professors. It involves taking advantage of the fact that, in most cases, Wikipedia requires citations or reliable secondary sources to support any factual claims made in an article. It is possible, therefore, to simply go to the source cited, instead of citing Wikipedia. Moreover, that secondary source is itself likely to cite its own sources, leading to a trove of possible resources for further research beyond what Wikipedia has to offer.

If all information on the Internet came from Wikipedia, if we were armed with the above knowledge, we’d have it made. There are far more online venues for information than that, however. For those who spend much time online, most of that time is likely to be spent perusing social networks like Facebook, Twitter, and YouTube. These sites have all sorts of media, and none of it is fact-checked. Spreading a powerfully persuasive message can be as simple as formulating a sentence, misattributing it to Albert Einstein, putting it together with his photograph in an image, and posting it. On the other hand, social networks have become...
a practically instantaneous way for people to find out what is happening in the world, from the death of a beloved celebrity to the news of a natural disaster halfway around the globe. In the latter case, the social networks may even become a way for millions of people to contribute to relief efforts.

Propaganda, in the form of writing, photographic images, and video, has existed since practically the respective moments that each of these modes of communication were invented. Misinformation does not always come in the form of an easily discredited Einstein meme, and sometimes it can have problematic consequences for all of us. For whatever reasons, whether those who create and spread such misleading information are credulous or malign, it is often the case that such distortions of reality prey on common fears to trigger an emotional response and short-circuit our ability to think. Through this manipulation, our natural fears of death and disease may lead many to believe things that turn out to be false. Widespread beliefs about the purported evils of vaccination have led to a large, multi-state measles outbreak this year.

For these reasons it is becoming increasingly important for information consumers and Internet researchers to acquire critical thinking skills. Critical thinking is not a quality that we are born with, but rather it is a proficiency which must be developed and practiced. It can be as simple as asking the question, “How do we know this?” In some situations, asking that question may become a major research project. The point is to think carefully about where the information came from, and to validate it independently.

In order to evaluate information to determine whether it is credible, some effort must be expended to analyze it – before citing it, before even passing it along, and especially before using it as a basis for activism. While we can’t believe everything on the Internet, we can believe some things, and in the end we must find out for ourselves which information is dependable and which is not. It is perhaps a bit ironic that the Internet, through its notorious unreliability, is slowly forcing us all to become better critical thinkers, and that is the key to literacy in the information age.

### 10 HABITS OF EFFECTIVE CRITICAL THINKERS

**By making a habit of doing the following, you too may become a critical thinker.**

1. An attitude of inquiry: Develop a practice of asking questions about information that is presented. The first question is, “How do we know?”

2. Think twice about common knowledge. It was once common knowledge that the Earth was flat. Consider what assumptions are being made, and question them.

3. Inform yourself. If you don’t know all the details that went into developing some piece of information, find out.

4. Be open minded. We all have biases but it takes hard work to overcome them. Think about what it would take for you to change your mind, and then look for it.

5. Take time away from emotional issues. If it is a matter involving illness, death, or loved ones, or if it is an issue that you have a personal stake in, sleep on it. Give your emotions a rest so that your mind can take over when you can think more clearly.

6. Don’t judge so easily. Whether you are judging a person or an idea, there is no rush. Give it time and think about whether you really have enough information to make that judgment.

7. Reconsider your position. Go beyond just being open minded, and actively try to prove yourself wrong.

8. Be reasonable. That is, base your understanding of the matter upon reasoning rather than convictions or feelings.

9. Think broadly. There may be important information that you are missing, which you do not even know that you are missing. Consider what factors may be outside your knowledge base.

10. Understand that not everyone has these skills, and be patient with them. If you are arguing with someone, rather than going on the attack, walk through your thinking with them, and try to sympathize with their view.

The above list was derived from the following document about critical thinking, in combination with personal experience: Facione, Peter A. 1990. Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction; Executive Summary of The Delphi Report. Millbrae, CA: California Academic Press.
The School of Athens (Scuola di Atene), 1511 – one of the most famous frescoes by the Italian Renaissance artist Raphael.
Free speech on college campuses has become a hotly contested issue in both popular culture and among academic circles. The question of whether incendiary speech abides by both university guidelines and by First Amendment protections of speech raises important and fraught questions to both students and the administrators who arbitrate disputes over free speech.

Last month, a campus “street preacher” held aggressively proselytizing to the students of Portland State University in service to his religious beliefs. The preacher stridently spread The Word on a number of occasions, interacting with some members of the student body on topics ranging from hell to the sinfulness of our community’s ways. The preacher here was not a student and seems to have been unaffiliated with any student group or campus organization. However, the incident still plays into a larger discussion of safety on college campuses and can illuminate the question of how we might better protect college students, especially women, from unwanted sexually charged innuendo without abrogating constitutionally protected rights in the process.

The question of whether this type of speech falls within First Amendment protections of religious speech becomes complicated when considering a few of the comments this man made to specific individuals. The itinerant preacher is purported to have called one woman a “slut” and asked some others if they masturbated. When deciding questions of free speech, school administrators must balance the competing interests of a student’s right to attend class unharassed against a person’s right to voice his views. Indeed, it is often the most objectionable views that require the most protections.

In McGlone v. University of Tennessee, a case whose facts bear striking similarities to the one experienced on the PSU campus, a 6th U.S. Circuit Court of Appeals decided against the University of Tennessee after the University sought to bar an itinerant preacher from speaking on campus. While the facts in this case do not perfectly align with those experienced at PSU—the Tennessee preacher John McGlone appears to have been moderately respected in the community while the man preaching to PSU students struck many as unstable at best—the precedent set by the McGlone decision starkly illustrates the clashing interests relevant in such disputes.

In McGlone, the itinerant preacher successfully reversed a lower court ruling on the basis of a little-known constitutional rule known as the “vagueness doctrine,” a test founded in the due process clause of the 14th Amendment which requires that laws be clearly comprehensible to citizens and that they allow for uniform enforcement. First Amendment cases must apply the vagueness
doctrine stringently, according to court precedent cited in the McGlone case. McGlone contends that he was given conflicting information about his right to preach on campus, a practice to which the 6th District Court objected to when it overturned the lower court’s decision to uphold the University of Tennessee’s rule barring speakers public speech absent formal permission from a registered student organization or as a guest of a current student.

Extrapolating from this court’s decision, one may wonder whether a clearer, less contradictory rule barring unaffiliated speakers would pass constitutional muster if instituted at PSU. As it stands, the university has no rules against people wandering onto campus areas and expounding on their topics of choice. While it is true that PSU has instituted and assiduously promoted its safety guidelines, PSU’s codes of conduct stay largely silent on the subject of on-campus conflict which might occur between a student and those unaffiliated with the university.

In response to an emailed list of questions concerning whether PSU might successfully circumscribe the presence of such visitors, Phillip Zerzan, PSU’s Chief of Campus Public Safety, confirmed that “the ability to regulate or control speech in the Park Blocks is guided by the First Amendment,” and while the preacher appears to have harassed students, such “non-physical, generally-directed harassment speech is still protected speech.”

“There is much case law confirming the principle that the limited ability to regulate speech (time, place, manner) must be content neutral,” Zerzan added, alluding to the fact that free speech restrictions are most narrowly tailored in the case of religious speech, including religiously motivated hate-speech, which enjoys the same protections as more benign forms of expression. “The preachers are a common event on campus and we encourage students to engage in this conversation in a constructive manner, or otherwise ignore the speech,” Zerzan added.

David Johns, a PSU professor of political science, corroborates this reading of the law as it applies to the on-campus preacher. As long as a person in the park blocks “is not violating a noise ordinance,” engaging in disorderly conduct, or specifically threatening students, “they can pretty much say what they want.”

There are, to be sure, categories of speech that courts have exempted from First Amendment protections, such as those presenting an imminent danger to public health, and those with intent to harm. In the 1942 Supreme Court case Chaplinsky v. New Hampshire, the “fighting words” doctrine established a category of speech exempted from First Amendment protections including “the lewd and obscene, the profane, the libelous, and the insulting or ‘fighting’ words,” or “those by which by their very utterance inflict injury or tend to incite an immediate breach of the peace.”

Such a category may not apply to the street preachers, however, regardless of the lewd questions he allegedly posed to students. While the courts may once seemed sympathetic to the notion of classifying large categories of speech as undeserving of First Amendment protections, as of the late 20th century the supreme court has begun to roll back such exemptions to the right to free expression, and “although Chaplinsky has never been overturned directly (the court dislikes admitting mistakes), its effect has been considerably reduced,” noted Johns.

The current court is more inclined than ever to give preference to those claiming immunity under the First Amendment, often employing the argument that more speech equals more freedom. PSU, for one, is in no danger to stifling freedom of thought. Just recently, PSU’s campus has witnessed a flourishing display of ideas, and while certain visitors may strike some as unworthy of consideration, it is the principle that allows them to continue that is worthy of our protection.
Oregon is under increasing pressure to export LNG. And that’s just one facet of the extensive fossil fuel infrastructure that is poised to unfurl across the Pacific Northwest.

On Tuesday, May 26th 2015, hundreds of protesters from across Oregon gathered at the capitol steps in Salem to protest the proposed export of liquefied natural gas (LNG) from multiple locations on Oregon’s coastline. With sponsorship from numerous community and national organizations including the local No LNG Exports Coalition, Sierra Club, Center for Biological Diversity, Columbia Riverkeeper, Northwest Environmental Defense Center, and the Waterkeeper Alliance, this rally was a very organized affair. A sea of professionally-printed signs waved in the afternoon sunshine. Robert F. Kennedy, Jr. came all the way from New York to make the keynote address.

Meanwhile, in the Port of Bellingham, a very different protest had just wrapped up. Twenty-year-old Western Washington University student Chiara D’Angelo scaled the anchor chain of the Arctic Challenger and remained suspended from the ship for three days before coming down on Monday morning. Her goal was to impede the movement of the vessel that will depart sometime this week for a Shell drilling mission in the Arctic. Shell’s highly controversial plan to drill for oil in the Arctic has drawn massive protests up and down the coasts of Washington and Alaska. Images of “kayak-ivists” swarming the Shell rig in Seattle’s harbor have gone viral on social media and quickly became an iconic image of resistance to fossil fuels worldwide.

According to the website of Rising Tide North America, the national chapter of an international grassroots mobilization to stop climate change, there are currently twenty-eight proposals for “new or expanded” fossil fuels terminals around the Pacific Northwest. A map published by the organization uses a detailed key to illustrate drilling sites, fracking fields, pipeline routes, and transport by rail corridors. A flame icon marks the proposed locations for LNG and propane export terminals. Nine such icons dot the Pacific Northwest coast, three in Oregon and six in British Columbia. Washington’s coastline is already occupied by a dense and growing network of oil-by-rail terminals.

So why expand the infrastructure now, as we make increasingly concerted efforts to move away from fossil fuels reliance? And why the Pacific Northwest, one of the least densely populated regions of the continent?

The answer lies in one key word: export. Oregon and Washington already purchase and pipe in natural gas for local consumption. That infrastructure is in place. The expansions and coastal terminals, on the other hand, are designed to service Asia. Producers of fracked natural gas, oil sands, and other fossil fuels in Canada and the United States Midwest have their eye on the Chinese and Japanese market, and they are willing to pour billions into making that export dream a reality.

Consider, for example, the propane terminal that Canadian company Pembina is still hoping to construct at the Port of Portland. The Audubon Society of Portland estimates that, if the terminal runs at capacity, the gas it exports will constitute 0.01% of all carbon emissions worldwide - 60m tonnes of carbon dioxide per year.

That’s a lot of fuel. It is therefore no surprise that Pembina and its investors are not backing down easily. After a public outcry over the terminal spilled over from op-eds and articles into protests at City Hall meetings, Mayor Charlie Hales reversed his support for the project and publicly recommended that Pembina withdraw its proposal. It is unclear what will happen next, but it appears that Pembina may now seek a legal hearing regarding city procedures. The company
has the sympathy of city council members who are more friendly towards industry and less concerned about reelection than Charlie Hales.

While the Portland propane export facility is seriously delayed, if not permanently shelved, two additional proposed facilities in Oregon are much closer to reality. These facilities were the focus of the rally in Salem. One facility is planned for the Coos Bay area in southern Oregon, while the other would occupy the very northwest tip of the state, across the bay from Astoria in the town of Warrenton, Clatsop County. Each LNG export terminal would require the construction of hundreds of miles of pipeline to link up with an existing natural gas corridor in Washington state.

Just as the transnational Keystone XL tarsands pipeline has drawn protests all along its proposed route, Oregonians are similarly up in arms about losing their land to pipelines. Additional concerns cite the potential for rupture and leakage, and the irreversible effects that would have on the state’s waterways.

Others who are more knowledgeable about the chemistry of natural gas and propane warn of explosions, both at the terminals themselves or along the pipelines and train routes that would service the facilities. This standard risk factor combined with the Pacific Northwest’s long-predicted impending seismic activity makes locals particularly nervous. Suffice it to say that, when the big earthquake hits, we will have enough to worry about without exploding LNG terminals added to the equation.

Supporters of the LNG export projects argue that the terminals will provide jobs and bring substantial tax revenue to those areas. OregonLNG, the company behind the northern facility, claim that as many as 10,000 jobs will become temporarily available during construction phases, followed by 1,400 permanent positions spread between the terminal itself and regional maintenance locations. The company also cites increased gas to the area as a possible resource to local development: the gas is currently slated for export, but the supply will already be in place if regional industries want to tap the pipeline.

While OregonLNG’s website avoids the subject of who exactly is going to be burning the lionshare of the Asia-bound gas, Portland officials have made greater efforts to directly address the controversy of export in relation to the proposed Pembina terminal. In an article published by the Guardian, the chair of Portland’s Planning and Sustainability Commission (PSC) explains that natural gas is an important “bridge fuel” that can help countries like China burn less coal while they transition to renewables. He goes so far as to call opponents of the terminal “hypocritical” for supporting Portland as a green city while impeding China from reducing its greenhouse gases through LNG imports.

Opponents wield their own numbers. Another member of the PSC who voted against the Pembina terminal expressed doubts regarding the “bridge fuel” argument, telling the Guardian: “I think the bridge fuel argument is at best dubious and at any event it has to be temporary. The intended life of this terminal is 50 years. If we’re still using the bridge fuel in 10 years, it’s not a bridge fuel any more.” Others cited statistics suggesting that Asia’s increased access to natural gas will not cause it to burn less oil and coal — it will simply cause them to burn more of everything while driving up our domestic price of natural gas.

Amidst the local talk of jobs and tax revenue, regional think tanks like the Seattle-based Sightline Institute try to bring the conversation back to a national and global perspective on climate change. “If all of the coal export terminals, oil-by-rail facilities, oil pipelines, and natural gas pipelines planned for the Pacific Northwest are completed and fully utilized, the region could export fossil fuels carrying five times as much climate-warming carbon as Keystone XL,” states a report published by Sightline last year. About six months ago, President Obama vetoed the Keystone XL pipeline out of concern for the environment; in March, the Senate tried but failed to override that veto. It is clear that the tide is turning when it comes to public support for increased fossil fuels infrastructure.

As one activist’s sign stated: “There are no jobs on a dead planet.”

Sources:

JordanCoveLNG location map. http://jordancove lng.com/media/


Sickinger, Ted, “Pembina pushing for vote on North Portland propane terminal, despite mayor’s opposition.” May 19, 2015, The Oregonian.


To countless college students, money is a precious—and woefully scarce—commodity. The simple truth is that school is expensive. With an unprecedented amount of students forced to take out student loans to pay for their education, a recently published article by Zeeshan Aleem for Mic reveals that “the class of 2015 is the most indebted class in American history,” according to an analysis conducted by Edvisors’ senior vice president Mark Kantrowitz. Individual students who take out loans while working towards their bachelor’s degree wind up with an estimated average debt of $35,051, while the graduating class of 2015 as a whole is faced with a mind-boggling $56 billion dollar total in student loan debt.

It’s understandable, then, that students are looking to cut costs at every available opportunity. Enter the PSU OneCard, the hybrid debit and Student ID card issued by Higher One Holdings, Inc. “...founded by three students in 2000,” according to Higher One’s official website, “Higher One’s initial goal was to create an electronic process that would allow students to get their financial aid refunds faster and save colleges time and money.” With Higher One in effect at approximately 1,900 campuses, servicing an estimated 13 million students, Higher One dominates a reported “…56 percent of the campus debit market,” as reported in an article for the Statesman Journal written by Joce Johnson.

The same article goes on to reveal that “A 2013 survey by the Associated Students of Portland State University found that 69 percent of respondents wanted an alternative to Higher One for financial aid disbursement. Seventy-eight percent said Higher One’s fees were not reasonable or acceptable.”

Higher One has been criticized for ineffectively communicating and outlining the numerous contractual stipulations of the OneCard system. Johnson’s article reveals that “Eleven percent of colleges and universities have college card agreements, in which the school maintains a contract with a third party financial institution to distribute financial aid
for students, according to a 2014 report by the United States Government Accountability Office. No laws currently govern the use of the cards or the contracts.”

House Bill 2832, passed 36-24 by the Oregon House, aims to discourage and circumvent a number of the fiscal and legal loopholes that organizations such as Higher One have profited from by enforcing more stringent federal regulation over postsecondary institutions. As detailed in the House Committee on Higher Education, Innovation, and Workforce Development’s staff measure summary of the bill, HB2832 “...requires the governing entities of postsecondary institutions to review contracts according to guidelines established by DOE and CFPB and to post contracts on their web sites. The measure prohibits revenue sharing, fees for initial disbursement via paper check or electronic funds transfer, ‘swipe’ fees and inactivity fees. Additionally, the measure creates a private right of action for students and encourages educational institutions to collaborate with each other when negotiating contracts with third party financial firms.”

In effect, the bill would negate a number of the most frequently maligned fees associated with Higher One by default. Furthermore, forcing postsecondary institutions to post their contracts online would benefit the student body tremendously in the interest of promoting fiscal transparency. As many of the issues students face with Higher One’s practices stem from poorly clarified fee breakdowns, HB2832 would necessitate a more direct line of communication between Higher One and students that, again, would ultimately benefit the student body.

Higher One is also facing the imminent possibility of hefty legal fees, as detailed in a recent article for MLive written by Brian Smith. In addition to a class-action suit in which the company is expected to shell out $15 million to students who were grossly overcharged for transactions, the company is also facing potential administrative action from the Federal Reserve System for “violating federal trade laws.”

School is expensive, and any chance to avoid additional debt is a welcome one. Student debt is not going to disappear overnight, by any means, but House Bill 2832, coupled with the mess of trouble Higher One is currently situated in, most definitely represents a step in the right direction.

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**Sources**


“Who We Are - Higher One.” Who We Are - Higher One.


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Photo of Higher One ATM.
The small, 1,200-household Nepalese village of Barpak now lies in ruins. Having been at the epicenter of the recent April 25th earthquake and its subsequent aftershocks, little of the city’s edifices survive. Scenes like this are commonplace throughout the country, especially in the nation’s capital and most populous city, Kathmandu. And though it’s no mystery that the world we inhabit is challenging and often violent, the chaos and turmoil brought by disaster serve as reminders of the fragility of life. But in the wake of crises comes the resilience and beauty of humanity, bonding together, refusing to play victim to catastrophe. However, amid the outing of four major American cancer charities as shams by the Federal Trade Commission, and discussions of inefficient US aid in Nepal due to local government corruption, the world of aid organizations can be a tricky place to navigate. Below you’ll find some of the most and least effective charities in regards to factors such as fundraising, salaries, and on-ground aid work.

The American National Red Cross, the fifth largest charity organization in the US, has long been seen as a beacon of American goodwill around the world since its founding by Clara Barton in 1919. Though there is undisputed good that comes from Red Cross operations, largely due to the size and scope of the organization—Red Cross controls over half of the US blood supply—the charity’s business dealings have been a matter of speculation as of late. In 2008, the charity received a $100 million congressional bailout in order to replenish depleted emergency reserve funds, a move critics say blurred the lines between the Red Cross as an independent charity or government agency. Additionally, the organization has been criticized for issues with efficiency after an internal report on the charity’s handling of Hurricanes Isaac and Sandy, surfaced by ProPublica, found that assets had been diverted for “public relations purposes.”[1] Furthermore, the organization’s 2014 Form 990 Income Statement, filed through the IRS, showed a total deficit of more than $73 million between revenue and expenses. The same year, President/CEO of the charity, Gail J. McGovern, was paid a salary of $562,364. Though her salary accounted for only .01 percent of yearly expenses, McGovern’s salary is more than $160,000 greater
than that of President Barack Obama. While program expenses took 90.3 percent of the Red Cross’ 2014 expenses, the fundraising efficiency of the charity, spending twenty-three cents for every dollar earned through fundraising, was far from ideal.

The inefficiency of the Red Cross can be partly traced to the overhead and difficulties surrounding the operation of such a large-scale enterprise; many smaller charities have higher fundraising efficiency due to the size and scope of their projects. One such charity is Doctors Without Borders, USA. Though 2014 revenue was much smaller than that of a charity like the Red Cross ($221 million as opposed to $2.9 billion), fundraising efficiency was more than double that of the larger operation, only 11 cents per dollar raised. Executive Director Sophie Delaunay’s salary was $143,942, much less than the average executive salary. Moreover, only one percent of donations came from non-private donors.[2]

PSU’s own Nepalese Student Association has undoubtedly felt the effect of the Nepal Earthquake the most, and as such, have begun a fundraising campaign through locally-based charity Mercy Corps (accessible at: https://www.mercycorps.org/NepaleseStudentAssociationPSU). Bikram Maharjan of the association stated that while Mercy Corps couldn’t specify where the money raised was being used, they have been in contact with the students—friends on the ground in Nepal had good things to say about the work of Mercy Corps. Most people, as he says, are simply “trying to catch up with their daily lives.”

Another reputable charity helping with devastation in Nepal is the Nepal Youth Foundation (NYF). Though the organization deals with far less money than other charities, its scope is small enough that efficiency is far greater than that of larger organizations. President Som Paneru is uncompensated and fundraising fees account for only 4 cents per dollar raised. Unlike the Red Cross and Mercy Corps, Doctors Without Borders and NYF ended their last reported financial years with excess funds rather than deficits.

Though the urge to lend a helping hand in times of hardship can be an awakening experience to the impressiveness of humanitarian efforts, there are far too many organizations looking for a good public image and a high paycheck to remain trusting anymore. It’s hard to argue that an immeasurable amount of good does not come from humanitarian aid work, but in an age where the line between charity and company has been blurred it’s necessary to be a smart donor. Websites like charitynavigator.org and charitywatch.org can be useful tools in determining just where your money is being spent and whose pockets it’s ending up in. Charity and compassion are invaluable; just make sure your money is really going where your heart is.


The term “b-film” is used to describe the predictable, cheaply made movies that often appear on straight-to-DVD films or the second half of double features, especially in the 30s, 40s, or 50s when such events were more common than they are today. The films were mass-produced, often only taking a week or less to shoot, and had small budgets that often resulted in a cast of inexperienced actors and kitschy special effects.

The poor-quality production of b-films has resulted in many laughably disjointed and ill-conceived movies; famous examples include Ed Wood’s notorious Plan 9 From Outer Space (1959) or the infamously groan-worthy Troll 2 (1990), which even inspired a documentary. More recent examples include Sharknado (2013) or straight-to-DVD arthouse knock-offs like S. Darko (2009).

The important distinguishing feature of a b-film is that its intended use is strictly as a product, not an artistic endeavor. B-films were hailed in with the Great Depression when, in an attempt to coax the impoverished nation back to the box office, theaters began running double features which offered two films for the price of one, making the audience feel they were getting a bargain. Most a-list studio productions were expensive, however, and rented their films out to local theaters, to the benefit of the distributor. As a result, many theaters turned to low-budget production companies that were more inclined to lease their films at a flat rate more amiable to the theater’s profit. B-films are produced purely to entertain and fill time, not to offer profound insights on life, especially beautiful, or remotely challenging on any front—except perhaps watch-ability, and that’s likely unintentional.

It’s important to note that all films are products in some degree or form, even critically lauded arthouse darlings like this year’s Best Picture winner, Birdman, eventually get packaged and sold for profit. That said, the line between arthouse and b-film is often clear, but with the recent rise in superhero films that line has become increasingly blurred.

Marvel in particular has been producing superhero films en masse. The studio’s first release, Iron Man (2008) proved to be a monumental success, raking in over 102 million dollars its first box office weekend. Since then the company has produced 10 more films, the most recent release being last month’s Avengers: The Age of Ultron. Marvel has found a safe formula that audiences respond well to and show up in droves to the box-office for. Marvel’s formula is so popular that the company has their Universe franchise planned out clear until 2028.

Not to be bested by Marvel, DC is in the process of creating its own interlocking franchise of films, including the upcoming Batman vs.
Superman and Suicide Squad. While it’s clear that the Marvel franchise and upcoming DC equivalent are being made primarily as product, this doesn’t necessarily ring true for the entire genre, which is fledgling in and of itself.

Consider, for example, the Western. Perhaps film’s oldest and most familiar genre, the Hollywood Western was nearly the first narrative structure put onto film in the form of The Great Train Robbery (1903) and has thence been adapted countless times—as many as 140 per year between 1940 and 1960, according to The Atlantic—and is consequently a vast genre that differs dramatically in quality and stylistic edge. Westerns range from films like Django Unchained (2012) to Red River (1948), which, outside of a similar back-drop, have almost nothing in common.

Comparatively, superhero movies got their start in 1978 with the release of Superman, and only sluggishly gained popularity afterwards. Many superhero movies feel similar in nearly every aspect, and not just in the familiar hero’s journey that the genre tends to focus on; the lighting, cinematography, editing, CGI fight sequences, and even the post-credits-teaser for the next film in the series, all seem numbingly redundant, leading some critics, like Matt Zoller Seitz, to say things like “this genre is where imagination goes to drown itself.”

It’s possible that superhero movies are simply new to the cinema world—that they haven’t had time to explore what they can be. Predictably, major production companies would want to make safe bets with their multi-million dollar investments, and would stick to tried-and-true formulas until ticket sales start to plummet (this is the case with any major film of any genre). But as more superhero movies are made, the more risks and diversity we are bound to see within the genre’s threshold.

There are a few exceptions that come to mind already: V For Vendetta (2005), Sin City (2005), and Kick-Ass (2010) all differ drastically from any of the films Marvel has produced so far, not just in levels of grittiness but stylistically and plot-wise too. Christopher Nolan’s Dark Knight trilogy also comes to mind in regards to stylistic and narrative exception, and boasts ticket sales to match any Marvel film to date as well. Superhero movies aren’t going away anytime soon, but as the genre develops and audiences get tired of the same old gimmicks, we should expect to see more diversity, more risks, and more innovation.

Sources


The Associated Students of Portland State University’s (ASPSU) recent election attracted considerable attention both on and off campus. The organization, which exists as a representative advocacy voice for students, holds its annual elections at the end of each academic year.

Below is a timeline of the past election’s events:

**March 30** — Student government applications close.

**April 6** — Campaigning begins.

**April 13** — Candidates confirmed, proposals and initial ballot established.

**April 15** — Tony Funchess’ criminal record is brought to public attention, causing considerable controversy. At the time Funchess was both a presidential candidate and ASPSU’s director of multicultural affairs.

**April 17** — Judicial Review Board (J-board) approves an attention request filed by Kaitlyn Vervet against presidential candidate Khalid Alballa, subsequently disqualifying him from the race. Patrick Vroman, who ran for senate, divorces himself from Speak Up, Speak Out, Stand Together slate and continues to run as an independent.

**April 22** — Tony Funchess resigns as ASPSU’s multicultural affairs director. J-board amends student government elections timeline.

**April 30** — New candidates announced.

**May 1** — J-board determines that presidential candidates must run with a vice-president and subsequently disqualify Anthony Robotham, another presidential hopeful.

**May 8** — Election results are finalized, Dana Ghazi and David Martinez are elected president and vice-president on the Student Power Coalition slate.

“There’s a high amount of new individuals that were elected to ASPSU,” said Nathan Claus, chief justice of the J-board, “for example the student fee committee, all seven people that were elected are... brand new people to the process... they haven’t served in ASPSU positions before, and a high majority of the senate is also [new to ASPSU].”

Claus remained optimistic about ASPSU’s future, and defended the organization’s actions and positions. “[The electoral set-backs] probably were preventable but I do not believe they were foreseeable,” Claus said, “you can prevent for stuff, but you have to [be able to] foresee... that stuff for prevention... it... was a situation we hadn’t expected and I believe we dealt with [it] in the best possible way [sic].”

Further information about ASPSU, the current presidency, and electoral process can be found online at the sites below:

https://sites.google.com/a/pdx.edu/aspsu

http://psuvanguard.com/tag/aspsu