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The core values for the publication are:

- We aim to publish a range of op-ed pieces, interviews, and short essays, alongside longer research and discussion articles that make a significant contribution to debates and offer wider insights on topics within the field;
- We aim to publish content spanning the mainstream political spectrum and from around the world;
- We aim to provide a platform where high quality student essays are published (winner of the IA Forum Student Writing Competition: Nadia Ali);
- We aim to provide submitting authors with feedback to help develop and strengthen their manuscripts for future consideration.

All of the solicited pieces have been subject to a process of editorial oversight, proofreading, and publisher's preparation, as with other similar publications of its kind. We hope you enjoy this issue and encourage feedback about it, as it relates to a specific piece or as a whole. Please send your comments to: editor@ia-forum.org

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“Weaponization” of Social Media and Security Threats

Interview with Emerson T. Brooking
Center for Strategic and International Studies, United States

You and Dr. Peter Singer recently authored the book [LikeWar](#). What is the central premise of [LikeWar](#), and what were you surprised to discover in your research?

In [LikeWar](#), we set out to study the growing “weaponization” of social media by intelligence agencies, national militaries, terrorist groups, and other conflict actors. We examined how we got here (the history of the internet as a political instrument); how it works (the nature of internet psychology and a rising generation of “social media warriors”); and what might come next (the vast accumulation of influence by Silicon Valley and the AI revolution).

If we have one takeaway, it is this: casual entertainment, political events, and terrorist propaganda all battle for attention in the same information environment, pulling users in one direction or another. If you are online, there’s no way to escape this battle — these “LikeWars.” You’re either waging one, you’re the target of one, or you’re both at the same time.

Tech companies, such as Google, Instagram, and Twitter, find themselves in the middle of disinformation and misinformation campaigns. What steps should these types of companies employ to prevent such campaigns — and is that their responsibility?

Google, Facebook, Twitter, and other such companies have a clear responsibility to mitigate mis- and disinformation on their services. Services that promised to improve democracy now gravely endanger it.

When we conducted the primary research for [LikeWar](#) in late 2016, companies were doing very little. I’m happy to report that this is no longer the case. The Silicon Valley giants have each built detection mechanisms to identify and remove foreign influence campaigns as quickly as possible; they are also much more communicative with governments. There is plenty work left to be done, but it’s night and day between late 2016 and late 2019.

What does an effective disinformation mitigation system look like? First, filter as much inauthentic or malicious behavior as possible. Second, be responsive to the content moderation concerns of users. Third, employ your own teams to identify problems that your automated systems missed. Fourth, be as transparent as possible regarding what content was removed, and for what reasons.

What education programs would you suggest to assist individuals to better analyze online information and social media messages?

Information literacy programs are fun to talk about but difficult to implement, particularly in the United States, where such federally mandated initiatives are regarded with great suspicion.

...casual entertainment, political events, and terrorist propaganda all battle for attention in the same information environment, pulling users in one direction or another. If you are online, there’s no way to escape this battle...

In my research, I've found the most effective programs aren't those that shower students with facts (e.g., "climate change is real"). If you take that approach, you tend to make students defensive and close-minded.

Instead, the best approach is to pair students off and ask one student to try to fool the other with a fabricated website or news article. In this game, one student focuses on how to deceive. The other student, aware that they might be deceived, scrutinizes information more closely. Both learn to be more deliberate consumers of social media.

A study by the Pew Research Center found that almost 70% of Americans believe fake news and misinformation greatly impacts Americans' confidence in government institutions, and 54% say it has a major impact on our confidence in each other. What could this mean for the future of our political institutions and voting patterns?

Put simply, we are looking at an acceleration of the fractiousness and polarization of American political life. The future of U.S. democracy will be messier, angrier, and more divided, with less agreement on a common set of "facts." Such an outcome is not without precedent, however: look back to U.S. politics of the mid-19th century, and you will find many of the same characteristics.

What do you view as the largest holes in U.S. security policies regarding the spread of disinformation?

Following credible U.S. intelligence reports as to the effectiveness of the Russian information offensive in 2016, President Trump waited nearly two years to convene a single cabinet-level meeting on the issue of electoral security. He waited that long because discussing this issue undermines the legitimacy of his election. More recently, with ongoing impeachment hearings in the U.S., numerous Republican congressmen have begun to spread baseless conspiracy theories, which originate with Russian influence operatives.

If the White House and Republican congressmen are actively seeking to confuse the American people's understanding of this threat, meaningful U.S. government action is impossible.

What strategies would you recommend to prevent misinformation and disinformation campaigns, particularly as we look ahead to the 2020 U.S. Presidential Elections?

Much of the onus falls on Silicon Valley, which must continue to invest heavily in anti-disinformation initiatives and capabilities. If the U.S. government is ever able to act, it should strengthen the regulatory powers of the Federal Elections Commission to make it harder for individuals and groups to spread political disinformation during elections while keeping their identities hidden.

For society at large, it is incumbent upon each of us to become more thoughtful and discerning consumers of information. If you hear a wild, salacious story that confirms all of your secret theories about how the world works ... it's probably false, and you should check a few more sources.

Moving forward, what is the biggest threat of disinformation to our society or political institutions?

Mis- and disinformation is a deeply frustrating issue for many people. There's often not much they can do about it, and for many low-information voters, they are (rightfully) tired of being told that Russian agents dictate their thinking.

My greatest fears are that people give up, and U.S. voting participation — never high — will sink much lower. As more people tune out of the democratic process, it will be easier for opportunists to subvert the U.S. government to their own ends.

Interview by Alexandra Gilliard



Emerson T. Brooking is a Washington, DC-based writer and an expert on the relationship between social media and conflict. He is Resident Fellow at the Digital Forensic Research Lab of the Atlantic Council . Previously, he was Research Fellow at the Council on Foreign Relations—the youngest researcher in a generation to receive such an appointment. He has served as an adviser on information warfare to the National Security Council, Joint Staff, and U.S. intelligence community.

He is the author, with P. W. Singer, of [LikeWar: The Weaponization of Social Media](#) (Eamon Dolan/Houghton Mifflin Harcourt, 2018, LikeWarBook.com).

When It Comes to Foreign Affairs Misinformation, What's Old is New and What's Borrowed is News

Professor Matthew Jordan
Penn State University, United States

Of all the threats to the idea of a Fourth Estate providing citizens the information necessary for democracy to function all over the world today, perhaps none are as grave as the one posed by Facebook, whose revolutionary digital platform allows misinformation and propaganda to spread instantly like an anti-deliberative virus. With 2.46 billion users, a near monopoly status in the media system, and an incentive system that makes it beholden to shareholders and political leaders in the countries where it is used, it's hard to know how to resolve the problems it poses for democracy. More than just impacting domestic democratic deliberation, the spread of misinformation has confused our understanding of foreign affairs. Yet as much as the technological affordances that allow Facebook to thrive represent a radical break from the past, it's also good to remind ourselves that there is nothing completely new under the sun.

While liars and strategic use of misinformation are timeless, societies have been particularly vulnerable to both at moments of when communication technology radically shifts the media system. At these transformative moments, the speed of production and scale of dissemination made possible by new technologies exceeds the capacity of people, norms and laws to manage their Janus-faced effects.

Take the Printing Revolution. When printing press technology emerged as cultural force, not only did it allow for the reproduction and spread of more accurate mathematical tables and planetary charts, it also afforded an increase in the sale and consumption of hermetic mysticism and faked

ancient texts, which flowed across borders like global rumors (Eisenstein, 1983). Increases in accurate information were accompanied by increases in conspiratorial misinformation.

In the 19th Century, new industrial technologies like the linotype, the steam powered rotary printing press and the telegraph revolutionized the international media system once again. By the end of the century, it allowed larger daily newspapers with massive circulations to provide readers -- quickly conditioned by a feedback effect to expect daily news -- with stories culled from telegraphic wire services that gathered them from across the globe. Once again, a technological shift in the media system afforded the spread of misinformation. "Fake news," as those who decried its spread called it, became a problem in America and abroad.

At the center of this new media system in America were a growing number of incorporated news syndicates and news gathering agencies. The strongest was the Associated Press (AP), controlling what the readers in papers who played by its rules learned about the world each day. As their influence grew, so did the concern about the speed with which misinformation could zip through the system and reach millions of readers through their local paper.

The AP and newspaper syndicates that shared content over the wires were always looking for good stories to attract readers, and unscrupulous writers exploited the incentives cooked into the system. The speed with which fake news could be distributed and printed left many wondering if

the media system could deal with the misinformation problem its technology afforded. The profit motive, as many in the radical press opined, gave the news services every incentive to peddle fake news to papers and gave local newspapers every reason to pass it along to their readers.

No one exploited the new technology quite like the great media magnate of the day, William Randolph Hearst. He thrived by sending out fake news via the telegraph to his growing stable of newspapers. After the USS Maine sank in the Havana Harbor in February 1898, Hearst saw an opportunity, a foreign affairs information gap that he could fill with misinformation. Installing writers in a fake news factory in Miami, he had them churn out invented interviews and gripping stories of battles that never were. Truth be damned, the misinformation distribution business was great for Hearst, thriving in the smog of war he stoked. Seeing the market for foreign affairs fakes, other telegraphic news gathering agencies got in on the game, often picking up and re-writing Hearst clips off the wire and selling them wholesale to their own news retailers. Misinformation cascaded quickly through the media system at the speed of the electronic signal.

Misinformation peddlers became practiced at crying fake news, countering competitors' accusations that they sold nostrum news by pointing out that those who denounced them were often doing the same thing. Hearst invented elaborate traps to snare misinformation pirates, such as the [Col. Replie W. Thenus - 'We Pilfer the News'](#) – story which he used to catch the AP. Yet though many were caught taking the bait, the affordances of the electronic media system along with the incentive system for publishing sensational fake news made the problem hard to control.



By the end of the aughts, the news gathering and distribution business expanded, thanks to court cases that broke up the AP's monopoly over the media system and allowed new services like Scripps's United Press (UP) to compete and for newspapers to shop around for wholesale news. In 1909, Hearst expanded his distribution business beyond his syndicates, launching the International Wire Service (INS). Though it did not sell to as many papers as the AP, by the time fighting in Europe began, around 400 newspapers depended on the INS for news from the fronts. Again, as was the case with the Spanish-American War, foreign affairs news was a hot commodity for readers at home intrigued by tales of cannons, courage and carnage.

The desire for the latest war news - true or not - created a strong economic incentive to pass along misinformation, and Hearst's INS cashed in. Like the Facebook users of today consuming misinformation curated by their friends, the news consumers a century ago consumed foreign affairs misinformation hot off the wires laundered in papers they trusted.

Misinformation about WWI contributed to the fog of war and made whatever was available tantalizing for readers. German propagandists knew that news consumers across Europe and America were hooked into the new media system, waiting for the next story to come off the wires. They knew a media system in search of profit would gobble up sensational news commodities and they made this a part of their disinformation campaign, hoping to demoralize the Allies and sway public opinion against American involvement in the war.

Already by 1914, German fakes and complaints of careless dissemination of them reverberated across British, French, Belgian and American news wires. One story which ran in the New Yorker Herald claimed that Zeppelins had sunk 39 British warships. Another fake story that originated in Berlin claimed 125,000 Russians had been killed in a single battle. Caught publishing such fakes, Joseph Pulitzer's *New York World* claimed that editors and readers being duped was the inevitable result of



government censorship and the prohibition against correspondents reporting from the front. "Fakes there have been, but where the news proved to be wrong it has been corrected as soon as possible" ("With Scissors and Paste," 1914). The AP, trying to retain its hegemonic status in the media system, linked its brand to verifying war news before publishing it and laid fake news traps for misinformation peddlers who didn't. In November 1914, it snared a *New York Globe* telegraph operator with a fake about the sinking of a Russian battleship ("Fake Story," 1914). Passing it first to the New York news bureau, which passed it

...casual entertainment, political events, and terrorist propaganda all battle for attention in the same information environment, pulling users in one direction or another.

along via the ticker to newspapers, he was arrested and bail was set. The profit-motive ensured this was not a solitary case.

Hearst knew the economic value of foreign affairs misinformation and the INS wire service was pulsing with it. In 1915, *Harper's Weekly* exposed it for inventing eighty fake correspondents attributed to various foreign cities, like "Frederick Werner" from Berlin, "John C. Foster" from London and "Franklin P Merrick" from Paris. Each served as byline camouflage for fake stories; all were ghosts. "Hearst operates a news dispensary, supplying pictures and wire news for a price," wrote H.D. Wheeler. "The Hearst wires lie, just as the Hearst papers lie." Whether with stories about the Czar's cabinet resigning or of massive German offensives, Hearst deceived "readers and clients into believing that they were receiving material from live correspondents." Yet though exposed for releasing electronic fake news again and again, Hearst continued to flood the media system with for-profit misinformation (Wheeler, 1915). Most often the fakes exaggerated Axis victories or Allied casualties, fueling the isolationist cause which Hearst's papers so ardently promoted.

The constant flow of electronic misinformation from the INS was so troubling and uncontrollable that British and French authorities banned it from using the telegraphic wires – considered public utilities - in October 1916. The British order accused the INS of a "garbling of messages and breach of faith." Wrote one editorialist in *The Times*, "The disciplinary measure taken against the INS is a satisfactory sign that the government appreciates the importance of dealing drastically with lying news agencies...The dissemination of accurate news is at all times a matter of high importance" ("Hearst's Fake News," 1916). Similar prohibitions barring the INS from using telegraphic wires soon followed in Canada, Japan and Portugal.

Being banned from European telegraph lines didn't stop the INS from sowing the American media system with fake war news. When not just inventing stories out of whole cloth, they bribed AP or UP reporters for scoops or rewrote competitors' stories from morning papers in

the East and sold them to dailies out West before the sun rose. Yet all the telegraphic platforms were culpable for the anxiety-producing misinformation reverberating through the media system. Though Navy Secretary Josephus Daniels denounced news services that transmitted fake news, the for-profit distribution of foreign affairs misinformation continued apace. Wrote one Fort Worth editorialist, "there ought to be some way to stop the mischievous activities of those responsible for such rumors." Along with shaming "every agency responsible for its spread," he wrote, "it may yet be necessary to obtain legislation to apply to them" ("Rumer Peddlers," 1917).

The AP eventually sought legal relief against the INS for pirating content, suing to enjoin it from promulgating its for-profit scheme. In the summer of 1917, a circuit court restrained the INS from procuring, copying, obtaining, selling, transmitting, or otherwise gainfully using any news from them "until its commercial value as news to the complainant and all of its members has passed away" ("AP Wins," 1917). As the verdict was appealed, the INS fell for a UP trap, pirating a fake story about a Russian Foreign Secretary "Nelotsky," (an anagram for "Stolen" + sky) and sending it out as their own ("Nelotsky is Stolen," 1918). The UP zipped stories of its clever trap out to its own papers within hours.

Hearst's defense seemed to be that the INS was forced to pirate and invent news because the AP had effectively monopolized the media market for foreign affairs news. While Hearst attacked the AP's monopoly status from the right, progressive muckrakers like Upton Sinclair frequently criticized the AP from the left, calling it "the most iron clad monopoly in America" (Sinclair, 1919, p. 276). The case between the INS and the AP, eventually heard by the Supreme Court, had all the elements that one can see in Facebook's role in the media system today: monopoly power, pirated content, weaponized misinformation and editorial culpability.

After the courts granted the AP its injunction, Hearst's lawyers warned that if sustained, the AP would become a "despotic monopoly" ("Hearst

Admits Theft,” 1918). They asserted that once published, news lost its “property value”—the basis for the AP’s copyright protection claim - because it was no longer new. Thus, any news service should be at liberty to publish their own take on events. The INS lawyers admitted that they were guilty of selling news that they had copied other organizations’ stories off the wire, but so too, they argued, was the AP. The Supreme Court decision in this case established precedent that would guide the monetization and distribution of news for decades to come, and provides some suggestions for solving the regulatory riddle posed by Facebook today.

Though accepting the case, the majority opinion of Supreme Court avoided coming to terms with the problems created by the media technology and its impact on the circulation of news. The majority noted that the economic value of news not only had to do with its “accuracy and impartiality,” but also with the “promptness of transmission.” Yet the electronic transmission of news by telegraph or telephone and speedy print reproduction made this temporal value fleeting (INS v AP, 1918). Wrote Justice Pitney, “the peculiar value of news is in the spreading of it while it is fresh.” The court created a new protected commodity category for news, “quasi-property,” derived not from its “literary quality,” but from the expense invested in producing it. News organizations deserved to reap what they sowed, and since the news had an exchange value to those who misappropriated it, the INS was guilty of “appropriating itself the harvest of those who have sown.” Though protecting the AP’s return on investment, Pitney emphasized that the opinion did not grant the AP the “right to monopolize either the gathering or the distribution of the news.” Yet, despite concerns about the AP’s monopoly power over the media system, and their “unclean hands” in both disseminating and passing off other news organizations’ stories as their own, the majority agreed that there was not enough to overturn the Circuit Court’s decree.

While the majority’s “quasi-property” precedent protected news producers for years to come, Justice Brandeis’s dissent provides the most guidance in our current misinformation predicament. He struggled to come to

terms with how the new technology driving the media system had radically transformed the nature of news production and consumption. For Brandeis, none of the precedent law cited by the plaintiffs and the majority decision were applicable. “The question presented for decision is new, and it is important.” Since news was “public” interest, any law that excluded news organizations from borrowing information and passing it on to readers should be qualified. “After voluntary communication to others,” he wrote, the news became “free as the air to common use.” News quickly became public knowledge in the new system, disqualifying it as the kind of knowledge that “the law has heretofore conferred the attributes of property” (INS v AP, 1918). For Brandeis, the problems in the case all flowed from the new electronic media system, which not only changed the time and space conditions for news gathering and improved the means of disseminating it, but “made it possible for news agencies and newspapers to obtain, without paying compensation, the fruit of another’s effort and to use news so obtained gainfully in competition with the original collector.” Though the injustice of this action was obvious on its face, there was no existing law that spoke to the situation. “To give relief against it would involve more than the application of existing rules of law to new facts. It would require the making of a new rule.”

“Courts are ill-equipped to make the investigations which should precede a determination of the limitations which should be set upon any property right in news.” It was up to legislatures, he argued, to investigate and deliberate on the elements of this case: the barring of a news distribution service from using an electronic utility because it had published misinformation deleterious to the public interest, the narrow protection given to news in a media system where the work of those who report and write stories can be passed along without permission for the profit of the distribution platform, the property status of public interest information, and the monopoly over means of distribution as a barrier to competitors. If they did so, they might create adequate legal protection and might “provide the administrative machinery necessary for insuring to the public, the press, and the news agencies full enjoyment of the rights so conferred” (INS v. AP, 1918). In short, the legislature needed to stop

relying on the courts to fix problems created by new media technology, and think long and hard about how the technological affordances of the media system required new laws to protect businesses, consumers and the public.

Today, Facebook has a reach and monopoly power over information distribution that exceeds the power of most of the nations it operates within. And to keep its market control intact, it has made itself available to the foes of liberal democracy while hiding behind an outdated notion of free markets and a weaponized notion of free speech. It is up to the legislatures which represent the public's interest to come to terms with the technological affordances and incentive structures of the digitized media system and create new laws to protect those who produce, distribute and consume information from the anti-deliberative scourge of for-profit misinformation.



Professor Matthew Jordan is a critical media scholar who works on the role of media in everyday culture. He is co-director of Public Humanities Initiative at the Humanities Institute at Penn State, serving as executive producer of the new web series HumIn Focus. Along with serving as a Faculty Senator, and sitting on the board of the Center for Humanities and Information at Penn State, he is currently North American representative to the Board of the Association for Cultural Studies.

Efforts to Curtail Disinformation

Interview with Paul Barrett, J.D.

New York University Stern Center for Business and Human Rights, United States

How well has U.S. government policy developed to prevent a similar occurrence of election interference as experienced during the 2016 elections?

The U.S. government is better prepared than it was in 2016. The FBI and DHS have larger, more coordinated teams working on the issue, and these teams are collaborating with the major social media companies. But the threats are shifting too, and we won't know for a while whether the government has done enough.

In what ways have external disinformation threats changed since the 2016 elections?

Threats are proliferating. Other countries are testing out the Russian playbook. Iran has launched information operations against the U.S. Given heightened tensions between Tehran and Washington, Iran could become a source of election-season disinformation. China is another looming threat. The Chinese have used information operations to try to undermine pro-democracy protesters in Hong Kong, and that's a potential forerunner to attempts to undermine U.S. elections. Beyond threats from nation states, we could see a proliferation of attacks by for-profit firms offering their disinformation services for a price.

The sheer volume of disinformation coming from domestic sources in the U.S. is greater than what comes from abroad.

You've said the domestic threat for spreading disinformation is even greater than the international threat. Would you please expand?

The sheer volume of disinformation coming from domestic sources in the U.S. is greater than what comes from abroad. The same is true in many other countries. Most malign actors primarily target audiences in their home countries. Too often, domestic disinformation receives less attention because the sources are many and more difficult to track than an organization like the *Internet Research Agency* in Russia. But the effects of domestic disinformation--division, cynicism, and confusion surrounding elections and other public events--are just as corrosive to democracy.

Are social media companies doing enough to combat disinformation? What are the most pressing weaknesses that need to be addressed?

The social media companies, like the U.S. government, are better prepared this time around compared to 2016. But 2016 is a very low bar! The companies are taking down more fake and dubious accounts. They're coordinating more effectively with the government and with each other. They've added more fact-checkers and content moderators. But we cannot know yet whether they've done enough. Potential weaknesses include susceptibility to deepfake video (and visual as opposed to text-based disinformation in general); vulnerability of Instagram in particular to visual disinformation; and uncertainty about the scale of for-profit disinformation services that might become available. In terms of the most disruptive types of disinformation, I would emphasize voter-suppression

messages because they go to the heart of democracy and should be a high priority.

How are artificial intelligence technologies being used to facilitate the creation and distribution of disinformation?

The best example of how AI is being used is in deepfake video and audio. Readily available AI technology can “learn” the movements and patterns of two video sources and then, in effect, combine them so that a target individual can be portrayed as saying or doing things that never happened. This capability has obviously disruptive potential. Imagine such a video being spread on the eve of an election when there isn’t sufficient time to persuade voters that it’s fake.

Looking ahead, what set of policies and actions would you prescribe to effectively fight disinformation?

The continued improvement of AI used to detect and remove disinformation; the hiring of yet more people to review content identified by AI as potentially problematic; the removal--rather than the mere down-ranking--of probably false content (e.g., “9/11 was an inside job” or “the Holocaust never happened”); institutionalization of intra-industry cooperation on disinformation; passage of legislation regulating political advertising and punishing voter suppression; more social media literacy training, including education provided directly via the major platforms.



Paul Barrett is Deputy Director of the New York University Stern Center for Business and Human Rights.

Bots to Distribute Misinformation, Tools to Counter Misinformation

Interview with Professor Filippo Menczer
 Observatory on Social Media
 Network Science Institute
 Indiana University, United States

Your research has delved deeply into the spread of information and misinformation in social networks, with one study by your team at CNetS looking into the disproportionate role that Twitter bots play in spreading misinformation. What are social bots and the methods they use to spread misinformation, and what were your findings in this study?

"Social bots" is quite a general term referring to social media accounts that are controlled by software to some degree. There are many, diverse types of bots. Not all bots are bad — many are useful or fun. Few bots are autonomous, or even automated to a significant degree.

We are particularly interested in studying and detecting malicious bots that are used to manipulate information and opinions, for example, by impersonating people and amplifying the spread of misinformation. A single entity can use software-exploiting social media platform tools (APIs) to control many bots and deceive human users. Such bots can automatically retweet messages by a set of "master" accounts, or automatically post links to certain sources. They can also reply to or quote messages from influential users and include links, hashtags, or images promoting a certain narrative.

We found that bots can act in coordination with low-credibility sources to amplify their exposure, and their posts are then retweeted by humans.

What are some of the threats that the use of deceptive bots on

social platforms present? What are the political and societal implications?

Bots can be used to exploit vulnerabilities of both social media platforms (ex. algorithmic engagement bias) and their human users (ex. limited attention, bandwagon effects, and confirmation bias). People and algorithms tend to pay attention to what appears to be popular. Algorithms use popularity and engagement as signals of human interest, thus increasing the exposure of "trending" topics, memes, and hashtags, giving them more prominence in news feeds. Humans use perceived popularity (e.g., markers of how many people have liked or shared a post) as a signal of importance.

Social bots can be used to exploit these algorithmic and cognitive biases by creating the appearance that many people are sharing or supporting an opinion, idea, or article — for example, an attack on a political candidate, a piece of false news, a conspiracy theory, or a narrative to distract from an issue or suppress voting. In this way, deceptive bots can be deployed to effectively manipulate an electorate.

What are the major challenges to countering the spread of misinformation online? Are there unique challenges when it comes to eliminating bots from social platforms?

The first step is to detect social bots. Machine learning algorithms are used for this, but there are many different types of bots, and no AI method

is error-free. Bots are moving targets and their detection is an arms race, with more sophisticated bots developed in response to improved detection algorithms. State-of-the-art machine learning algorithms are based on training examples and have a particularly hard time detecting bots that are different from those seen in the past, or those that are used to amplify content generated by a human operator. Each bot of this type acts just like a human, and only by noticing that its behavior is suspiciously similar to that of many other accounts can one spot the inauthentic coordination. This is a difficult technical challenge.

Even when a suspicious account is identified and suspended, it is hard to know with certainty who was behind it. And the human operator can appeal and claim innocence. Many bots delete their past messages to hide evidence of malfeasance, making it even more difficult for platforms and researchers to catch them.

Finally, some politicians are claiming — without evidence — that platforms have political bias, and bot take-downs are suppressing speech, making it very costly from a PR perspective for platforms to aggressively curb malicious bots.

Are there tools available or systems you've developed to counter the spread of misinformation in social networks?

In our Observatory on Social Media at Indiana University, we have developed several tools to help researchers, journalists, civil society organizations, and the general public understand how social media can be manipulated by social bots, and to raise awareness of the problem. One tool, Botometer, extracts over a thousand features about a Twitter account and its public posts and mentions, and calculates the likelihood that the account is automated. Another tool, Hoaxy, allows users to map the diffusion networks of links, hashtags, or other entities on Twitter: who retweets or mention whom, which are the most influential accounts, and whether bots play a role in the online spread.

Our most recent tool, BotSlayer, is a software that anyone can easily install on their own servers or in the cloud to track and detect potential manipulation of information on Twitter. It can be used, for example, by journalists, corporations, and political candidates to discover in real-time new, coordinated campaigns in their domains of interest, without any prior knowledge of these campaigns. BotSlayer uses an anomaly detection algorithm to flag hashtags, links, accounts, and media that are trending and amplified by probable bots. Currently, we're working on adding the capability to detect when multiple accounts pushing a certain narrative are coordinated by a single entity.

After a slow reaction to the manipulations discovered in the wake of the 2016 U.S. election, social media platforms are now devoting increased resources to detecting inauthentic accounts. However, our research suggests that a lot of the malicious activity goes on undisturbed.

What can social media companies like Google, Twitter, and Facebook do to slow the spread of misinformation on their platforms?

After a slow reaction to the manipulations discovered in the wake of the 2016 U.S. election, social media platforms are now devoting increased resources to detecting inauthentic accounts. However, our research suggests that a lot of the malicious activity goes on undisturbed. This is probably due to a combination of factors: the technical challenges of detecting abuse, the political risks of aggressively taking down political bots, and the advertising business model that rewards engagement. No easy solutions exist.

It is my opinion that the current situation is in large part an unavoidable consequence of a frictionless information ecosystem. Anyone can

produce information at huge volume via software APIs, overloading our capacity to select and digest information and bringing the value of information to near-zero. Reintroducing friction might help increase the value of information, for example by limiting the number of automated posts by bots, challenging prolific accounts with puzzles to prove they are humans, or charging money for high-volume production, akin to ads.

Much has been made about the threat of artificial intelligence to enhance the creation and distribution of misinformation and disinformation. But how can AI be leveraged to protect — or limit — the public’s exposure to misinformation and disinformation?

Like all technology, AI can (and is) used for both good and bad. Machine learning, for instance, is a branch of AI that is a critical ingredient of social bot detection tools like those developed in our lab. Unfortunately, in general, researchers do not have access to information about AI techniques used by social media platforms to combat misinformation and disinformation. So, it is hard to determine the main challenges at scale and where we should focus our research efforts.

Interview by Alexandra Gilliard



Filippo Menczer is a professor of informatics and computer science at Indiana University, Bloomington, with courtesy appointments in cognitive science and physics. He holds a Laurea in Physics from the Sapienza University of Rome and a Ph.D. in Computer Science and Cognitive Science from the University of California, San Diego. Dr. Menczer is an ACM Distinguished Scientist, a Fellow of the Center for Computer-Mediated Communication, a Senior Research Fellow of The Kinsey Institute, and a board member of the IU Network Science Institute.

He has been the recipient of Fulbright, Rotary Foundation, and NATO fellowships, and a Career Award from the National Science Foundation. His work on the spread of information and misinformation in social media has been covered in many U.S. and international news sources, including The New York Times, Wall Street Journal, Washington Post, NPR, PBS, CNN, BBC, Economist, Guardian, Atlantic, Reuters, Science, and Nature. Prof. Menczer received multiple service awards and currently serves as associate editor of the Network Science journal and on the editorial boards of EPJ Data Science and PeerJ Computer Science.

Misinformation and Disinformation Security Concerns

Interview with Chris Meserole
Brookings Institution, United States

What have governments seeking to spread disinformation learned from methods used by Russia in Europe and the 2016 U.S. Presidential election? How effective have these efforts by other countries been?

If Russia authored the modern disinformation textbook, China, Iran, and others have proven to be great students. What Moscow demonstrated was that you could cheaply and repeatedly leverage digital media to exacerbate existing social cleavages. Seed disinformation among the right communities, and you could watch it proliferate across the entire information ecosystem to the point where democratic discourse begins to break down. China has probably been the most successful in emulating Russia — primarily in Taiwan and Hong Kong.

Use of misinformation and disinformation has been an important cog in recruitment efforts by extremist groups overseas. What is the current state of curbing these tactics?

Countering disinformation is easier at a tactical level than a strategic one. The major social media platforms — Facebook, Google, and Twitter — have actually gotten much better in the past year or two at identifying state-sponsored disinformation campaigns and taking them offline. But at a strategic level, the problem is much more challenging, particularly since the state officials involved often have a vested interest in not disrupting the campaigns. Consider the Trump administration: there's only so much the U.S. government can do to counter disinformation globally when the

President is not only benefiting from state-led disinformation campaigns, but actively facilitating - and retweeting - them.

The shooting in El Paso over the summer highlighted similar issues in the U.S. tied to right-wing groups. Are enough efforts being taken to prevent domestic misinformation and disinformation threats by such groups?

The intersection of disinformation and extremism has become increasingly important, particularly among the far right. There are early efforts to disrupt them, but it will require a cross-platform effort — including shutting down not just campaigns on major social media, but also smaller platforms like Gab and messaging boards like 8chan. It is much more complicated than just having Facebook throw more resources at the problem.

The use of Artificial Intelligence presents opportunities for disinformation and misinformation creation and distribution — including Deepfakes — but also provides a technology for developing tools to counter such actions. What are your thoughts on the possibilities posed by AI?

It's important to distinguish between the distribution of disinformation and its production. Machine learning can help with the former by identifying potentially malicious accounts and distribution networks. But in the long run, I'm skeptical that AI will be a solution to the problem posed by

deepfakes, or more broadly to the use of AI to produce text, audio, and video that are indistinguishable from real or authentic content. The reason is that any algorithmic breakthroughs used to discriminate real from fake content will then be leveraged into the next generation of deepfake software.

Is U.S. National Security Policy robust enough to address current and evolving disinformation/misinformation threats?

U.S. policy has remained relatively robust to date, but it's come at a cost. Many career civil servants and even many political appointments have recognized the scope and extent of the disinformation problem and tried to curtail it. But in doing so they have also opened a fissure between their agencies and the White House that will not be easy to repair.

What would you recommend — from policies to actions by individuals — to combat disinformation and misinformation?

At the policy level, we need an executive that takes the threat seriously rather than exacerbating it. At the individual level, we would all do well to check our priors — everyone is susceptible to disinformation when it seems to confirm what we already believe.



Chris Meserole is a fellow in Foreign Policy at the Brookings Institution and deputy director of the Brookings Artificial Intelligence and Emerging Technology Initiative. He is also an adjunct professor at Georgetown University.

Mr. Meserole's work has appeared or been featured in the New Yorker, Foreign Affairs, Foreign Policy, Wired, and other publications.

About Ramifications and Consequences of Disinformation and Conspiracy Theories

Dr. Joachim Allgaier
Human Technology Center
RWTH Aachen University, Germany

In a high-level meeting of the scientific academies of the G7 nations in France from March 25-26, 2019, it was pointed out that building and maintaining a relationship of trust between science and society is more important than ever before. Growing levels of distrust in science are taking hold in the global society, and one of the reasons for that is the production and spread of misinformation, disinformation and conspiracy theories, particularly on the internet (Summit of the G7 Scientific Academies, 2019). Here it makes sense to first distinguish between misinformation and disinformation. Misinformation refers to information that is incorrect, possibly also by accident. Disinformation, in contrast, is a specific form of misinformation, namely one that is intentionally false. Often the distinction between the two terms is not very clear. Terms such as “fake news” or “rumors” do not necessarily clarify things either.

A related problem is the belief in conspiracy theories; these are worldviews that make people believe that a small group of people is in charge of events and phenomena – acting in secret for their own benefit. People who believe in conspiracy theories are often willfully rejecting the scientific consensus, and they are also sometimes attributing false intent to members of the scientific community (Scheufele & Krause, 2019). From this point of view, science conspiracy theories are particularly harmful for the science-society relationship because citizens that are strong believers of conspiracy theories are very difficult to reach with scientific facts and it is even more difficult to change their beliefs. A whole range of cognitive biases, that are to some degree present in almost all human beings, is responsible for people sticking to the worldview that

they have chosen to believe (e.g., Brotherton & French, 2014). Exposing them to scientifically correct facts that are challenging their beliefs can actually backfire, meaning that then they hold on to their belief even more strongly than before (Scheufele & Krause, 2019).

The internet, and particularly social media, are hotbeds for conspiracy worldviews because, in general, there are no gatekeepers and there is no quality control taking place. Algorithmic curating on social media sites is responsible for the content that users will encounter on their personalized profiles and timelines. Once they started to view or like specific content, say either science news or videos of conspiracy theories, then the algorithms will often feed them with more of the same, and the groups they are in become more homogenous and polarized (Bessi, et al. 2016). This means the interaction on social media is mostly likely to confirm and even radicalize their worldviews and the formation of echo-chambers makes it extremely difficult to expose them to views outside their own spectrum of belief. In other words, once the ball is set rolling, it will most likely accelerate and will be very hard to stop it.

How widespread conspiracy theories are on social media can be illustrated with a recent study on climate topics on YouTube. The online video-platform YouTube is one of the most popular social media sites worldwide. It now has more than 2 billion users worldwide and it is the second most popular search engine after Google (just as a reminder the U.S. has a population of less than 330,000,000 people; the European Union has around 513,000,000 inhabitants). According to a study by

the Institute for Public Relations (2019), it is also the most trusted social media platform, or at least more Americans answered as such in a survey that they have “some” trust in the YouTube platform than Americans answered for Facebook, Instagram, Twitter, or Snapchat. Facebook is seen by most as being at least “somewhat” responsible for spreading disinformation. YouTube users can upload videos of their own making and only a very rudimentary quality check takes place, sorting out for instance, content containing extreme violence or pornography. The uploaded videos are not checked for being scientifically correct or truthful which is why the site is very popular with all kinds of conspiracy theorists.

The purpose of the study (Allgaier, 2019) was to find out what kind of content YouTube users find when they enter climate-related search terms into the search bar and watch the videos. The online anonymization tool TOR has been used to carry out the searches with different identities so that personalization of the search results was avoided.

Ten search terms were employed to search for and analyze 200 videos about climate and climate modification topics, which are contested topics in online media. Search terms also included the terms climate engineering and geoengineering which are often used interchangeably. The Royal Society (2009: 77) defines geoengineering as: “The deliberate large-scale manipulation of the planetary environment to counteract anthropogenic climate change.” The term involves technologies, such as carbon dioxide removal techniques, solar radiation management techniques, and others such as massive forestation to absorb greenhouse gases. A qualitative classification tool was then set up to categorize the videos in the sample according to whether or not they adhere to the scientific consensus view on manmade climate change. Eighty-nine videos (44.5%) of the 200 videos in the sample support the scientific consensus views about anthropogenic climate change as well as climate scientists discussing climate topics with deniers of climate change in four more or less balanced videos in the sample. Unexpectedly, the majority (53.5%) of the videos in the sample (107 videos) supports

worldviews that are opposing scientific consensus views: 16 videos deny anthropogenic climate change and 91 videos in the sample propagate straightforward conspiracy theories about climate engineering and climate change. Videos supporting the scientific mainstream view received only slightly more views (16,941,949 views in total) than those opposing the mainstream scientific position (16,939,655 views in total).

Almost half of the videos in the sample supported the so-called “chemtrails” conspiracy theory. It claims that unknown forces are spraying people with toxic and other harmful substances that appear as airplane contrails. In an expert survey, scientists strongly opposed the “chemtrails” conspiracy theory as they are not aware of any actual evidence for it (Shearer, West, Caldeira & Davis, 2016). However, “chemtrails” activists appear to have hijacked the scientific terms “geoengineering” and “climate engineering”, most likely in order to distort public discourse and to challenge scientific authority as a whole. Some of the people creating these videos explicitly ask their followers to use the “geoengineering” term and not the “chemtrails” term to distribute these videos because this would lead people to the explanation that the theory is actually an anti-scientific conspiracy theory (Allgaier, 2019). This is not only happening on YouTube but also on various other social media channels such as Facebook and Twitter (Tingley & Wagner, 2017). Up to a third of the U.S. population seems to believe to some degree in the “chemtrails” conspiracy (Tingley & Wagner, 2017). Another related problem is that if internet users are searching for the term “chemtrails” in the supposedly scholarly database Google Scholar, the users are also directed to the websites of “chemtrails” conspiracy activists.

But that is not all. In order to reach as many people as possible, “chemtrails” conspiracy activists are also recruiting celebrities who have huge amounts of followers on social media. They are not only mimicking professional news programs and documentaries, but they are also using popular culture formats such as music videos to address the public about the alleged conspiracy about climate or geoengineering

(Allgaier, 2012). Academic publishing is another area of activity of the “chemtrails” activists. There are so called “predatory” journals that appear to be scientific publications, but in reality they publish virtually anything without quality checks as long as the author(s) pay the required fees. These journals are entirely fake journals but they are used by conspiracy theorists and deniers of anthropogenic climate change to appear scientifically legitimate. In this sense, fake journals are damaging the credibility of science and academia, and they are undermining the trust in scientific expertise. Publications in fake and other journals are not made to convince scientists but to appear legitimate on social media profiles and especially so when they are addressing politicians and the general public. These papers do not adhere to scientific standards and are generally retracted later on, if they slipped through the peer review process – if there is one – and are published in actual scientific journals (Palus, 2015; Chawla, 2016).

“Chemtrails” activists have also made use of petition campaigns in many countries in order to get attention and to address politicians and the public. In Austria (Freistetter, 2014) and Germany (NDR staff, 2016), “chemtrails” activists have even managed to cooperate with members of parliament so that they could directly address the government about the alleged conspiracy. The government then officially had to deal with requests about the “chemtrails” conspiracy and had to respond to it in writing, thereby giving it further attention. The “chemtrails” conspiracy movements are particularly active on social media and the internet (with their own websites and blogs, online radio shows and podcasts) in order to hijack the public discourse on climate engineering and geoengineering. They also use political campaigning and petitions, public demonstrations and protests, flyer and poster campaigns, requests to governments, publications in (predatory) open access journals, recruitment of politicians, celebrities and others.

All these developments do not happen by accident. It is perhaps not accidentally that some actors are vehemently trying to capture the discussion around climate engineering and geoengineering now that the

Intergovernmental Panel on Climate Change and scientists suggest that we may need to consider the possibility of using these risky technologies since it is now rather clear that the emission targets that have been set in the Paris agreement as a target to stop climate change will almost be impossible to reach. The Intergovernmental Panel on Climate Change (IPCC), working under the auspices of the United Nations, has the aim to provide the world with an objective scientific view on climate change and its social, political, economic, and environmental impacts.

The consequence of this distortion strategy may be that, when it is necessary to have a societal discussion on whether or not climate engineering and geoengineering methods should be applied, a reasonable societal debate will be far more difficult if not impossible because much of what citizen will find about the topic will be conspiracy theory-related content. The conspiracy theory around “chemtrails” is just one among many. It is very problematic that such conspiracy theories will often be linked to other conspiracy theories that also attack science, political structures and democratic institutions in civil society. The algorithms of various social media companies do seem to help in making these connections. At least some of the actors spreading disinformation and conspiracy theories do so to destabilize liberal societies and to attack democracy as a whole. In general, it seems that more men are active in spreading anti-scientific conspiracy theories than women, but Shepherd (2018) notes that in health-related conspiracies such as the “chemtrails” one or those against vaccination, women seem to be particularly active.

It is a nontransparent and confusing landscape when it comes to the origins of all the conspiracies and disinformation campaigns that we have

It is a nontransparent and confusing landscape when it comes to the origins of all the conspiracies and disinformation campaigns that we have encountered in the last years.

encountered in the last years. A range of recent reports tried to shed some light on the situation (Barrett, 2019; Bradshaw and Howard, 2019; Institute for Public Relations, 2019). One major conclusion seems to be that we need to get better prepared for such developments because these are not going to stop any time soon, and possibly they will increase and intensify. It is striking, for instance, that Mark Zuckerberg wants to financially profit from having political ads on Facebook, and it is not going to police whether they are used to spread lies or not (Newton, 2019).

One particularly worrying tendency is the emergence of more and more so called deepfake videos, possibly the next level of disinformation. Lee (2019) reports that in June 2019 a video appeared online that allegedly showed Datuk Seri Azmin Ali, the Malaysian minister of economic affairs, engaged in a homosexual “tryst” with Muhammad Haziq Abdul Aziz, a deputy Malaysian minister’s secretary. Being homosexual is illegal in Malaysia. The realworld consequence was that Abdul Aziz was quickly arrested. One particularly uncanny aspect of this story is that Malaysia’s prime minister and various others say that this video was just one of countless deepfake videos that are entirely untrue but made with such technological perfection that is it almost impossible for humans to distinguish which videos and pictures are real and which have been doctored using artificial intelligence (AI) approaches.

Barrett (2019) assumes that we will have to deal with much more of these very soon. Already they are in the United States in the campaigns for the 2020 election alongside various other manipulation and disinformation techniques, tactics and strategies. The solution proposed by information and computer scientists is to simply develop better AI systems that can reliably detect which videos and images show real events and which are not (Lee, 2019). This would then lead to a tech arms race. The only decision left for us human beings would then be at some point to choose which AI system we are going to trust when it is going to tell us what the reality is or was.



Joachim Allgaier is a social scientist, science and technology studies scholar and media and communications researcher. He is a senior researcher at the Chair of Society and Technology at the Human Technology Center (HumTec) of RWTH Aachen University in Germany and a member of the Global Young Academy. Dr. Allgaier is studying how science, technology and health topics are communicated in public, how they are represented in the media, on the Internet and in popular culture, and how various publics perceive them. He is currently researching how science, technology and health issues and topics are communicated via online video-sharing platforms such as YouTube.

Disinformation: An Ailment with No Cure?

Yarik Turianskyi

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The onset of the internet age in the early 1990s brought enthusiasm about its potential to democratize societies. Technological acolytes believed that the internet would increase information flows, which in turn would open up societies, making governments more transparent and accountable. Although they were correct in their first assumption, the second did not follow. Initially, citizens found the internet an effective platform to share information about corruption and government malpractices as well as a tool to mobilize. Yet others, who were less democratically inclined, soon learnt how to use technology for their own means. One aspect of this is “fake news”, a term popularized by President Donald Trump, but has been in existence long before him.

“Fake news” can refer to a variety of different phenomena. The most nefarious is propaganda, which is a systematic way of presenting information, ideas or facts in a specific manner to invoke a desired feeling or response from the citizens. The other is disinformation, which is intentional false information. This is often used by governments or their supporters, which can include interest groups or the media. Finally, misinformation is false information, but not intentionally so. The age of social media means that misinformation is spread by regular citizens, often by sharing erroneous news stories.

Although global attention has been primarily drawn to attempts to influence the 2016 U.S. elections and Brexit through social media, such incidents are prevalent in many, if not most of African elections.

Worryingly, governments often use the prevalence of “fake news” as an excuse to prevent citizens from online access by shutting down access to the internet as a whole or selectively (such as social media networks and messaging apps).

For example, in January 2019, Zimbabwe shutdown its internet for three days following mass protests against a rise in fuel prices which resulted in at least 12 dead and 600 injured. Activists [argued](#) that this measure was taken to prevent citizens from mobilizing online and to prevent information about the government’s brutal crackdown from reaching the outside world. Zimbabwe’s High Court eventually ruled that the shutdown was illegal because the Minister of State for Security did not have the power to [authorize](#) it.

There are, however, positive examples emanating from the continent. In the run-up to the national poll on 8 May 2019 in South Africa, the Independent Electoral Commission partnered with Media Monitor Africa to establish an online fake news monitoring platform called The Real 411. This service provided citizens with an opportunity to report election-related disinformation. Complaints were [made](#) about news articles, opinion pieces and posts made by political parties.

At the national level, a multi-stakeholder approach seems most suited to combating disinformation.

The success of the project resulted in the platform being continued after the ballot; it has evolved to also include hate speech and incitement to violence.

Technology has changed the status quo between governments and citizens. Citizens should no longer be seen as subjects, but rather as active participants in governance processes. At the national level, a multi-stakeholder approach seems most suited to combating disinformation. Civil society, technology experts and governments can collaborate, bringing different skillsets to the table, in their

efforts to fight disinformation. Unfortunately, the current trends are pointing in the other direction. According to [Freedom House](#), free speech and privacy on the internet have declined globally for the ninth consecutive year. This is worrying as a tool intended to free humanity from oppression through information is now being used to achieve the opposite effect. Unless prominent technology companies and established democracies take a stronger stand, the rise of digital dictatorships will continue.



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Problematizing the Use of Automated Technologies to Tackle Disinformation Online

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Use of technology has often been heralded as the silver bullet to deal with social problems online. Over time, technological solutions to moderate content have become more effective, but they also raise questions about who is the “judge” in determining what is legal/illegal, and desirable/undesirable in society. Underlying their use is a difficult choice between different elements of law and technology, public and private solutions, with trade-offs between judicial decision-making, scalability, and impact on Internet users’ freedom of expression.

This op-ed presents and reflects on the results of an interdisciplinary study conducted for the European Parliament in Spring 2019. We were tasked to analyze the implications of use of artificial intelligence (AI) to tackle disinformation online on freedom of expression and media pluralism. We warn against the current technocentric optimism prevalent in government circles that pushes tech intermediaries to take pro-active, and often automated, measures to tackle disinformation on their platforms.

Within machine learning techniques that are advancing towards AI, automated content recognition (ACR) technologies are textual and audio-visual analysis programs that are algorithmically trained to identify potential “bot” accounts and unusual potential disinformation material. We use ACR to refer both the use of automated techniques in the recognition, and the moderation of content and accounts to assist human judgement. Moderating content at larger scale requires ACR as a supplement to human moderation. However, using ACR to detect disinformation is prone to false negatives/positives (over/under-blocking) due to the difficulty of parsing multiple, complex, and possibly conflicting meanings emerging

from text. ACR has reported success in identifying “bot” accounts but is currently inadequate for natural language processing and audiovisual material including “deep fakes” (fraudulent representation of individuals in video). In sum, automated technologies are limited in their accuracy, especially for expression where cultural or contextual cues are necessary.

In international human rights law, such as Article 10 of the European Convention on Human Rights and Fundamental Freedoms 1950, restrictions to freedom of expression must be provided by law, legitimate and proven necessary, and as the least restrictive means to pursue the aim. We believe that governments should not push this difficult judgement exercise in disinformation onto online intermediaries, who are inexperienced in and not incentivized to judge fundamental rights, and not bound by States’ international human rights commitments. In 2018, the U.N. Special Rapporteur on Freedom of Opinion and Expression called for assessments of the impact of technology-based solutions on human rights in general, and freedom of expression and media pluralism in particular.

There is no single option to solve the problem of disinformation. We thus advocate for a multistakeholder, multidimensional approach, which places the use of automated technologies to tackle disinformation alongside equally (if not more) important responses – especially when emphasizing the effects of (automated) content moderation on freedom of expression. We believe that disinformation is best tackled through media pluralism and literacy initiatives, as these allow diversity of expression and choice. In particular, source transparency indicators are preferable over (de)prioritization of disinformation, and users need to be given opportunities

to understand how their search results or social media feeds are built and edit their search results/feeds where desirable.

When using AI for content moderation purposes, we advise against regulatory action that would encourage use without strong human review and appeal processes. We argue that when technical intermediaries need to moderate content and accounts, detailed and transparent policies, notice and appeal procedures, and regular reports are crucial. We believe this is also valid for automated removals.

Indeed, there is scope for standardizing (the basics of) notice, appeal and reporting procedures, and creating a self- or co-regulatory multistakeholder body. On transparency and accountability in content moderation, we point to the Santa Clara Principles. One useful recommendation they provide on appeals is to ensure “human review by a person or panel of persons that was not involved in the initial decision”. These principles also start to flesh out the high-level human-rights based approach, as called for the U.N. Special Rapporteur on Freedom of Opinion and Expression. A second mechanism would be the development of a “social media council”. Such a multistakeholder body could have competence to deal with industry-wide appeals and work towards a better understanding and minimization of the effects of content moderation on freedom of expression and media pluralism.

In a policy context where tech intermediaries are under scrutiny for data breaches and competition concerns, we need to take caution in outsourcing regulatory roles that affect freedom of expression. Disinformation is more than a technological problem requiring a technological response.

If this op-ed has piqued your interest, we invite you to consult the full EP study on ‘Regulating disinformation with artificial intelligence. Effects of disinformation initiatives on freedom of expression and media pluralism’, as well a subsequent expert interview conducted on the subject.



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Trisha researches the regulatory push toward and societal consequences of tech platforms taking proactive (automated) measures to moderate online content. A second closely related research strand pertains to stakeholder engagement and participatory governance in digital policy.

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EDUCATION



Education in an Age of Disinformation: Possibilities for Thinking “Outside the Box”

Dr. Ben Chwistek

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Political instability, challenges from the far left and right, propaganda, lies, fake news, politicians stepping beyond the bounds of normalcy: these are not new features of Western democracy. As such, their presence in the wake of a global financial crisis should not be surprising. Something similar happened in the early twentieth century. How did political thinkers conceive of education then, and what relevance does it have for us now?

In their introduction to one of the most influential works of 20th century political theory and sociology – Max Weber’s Vocation Lectures – David Owen and Tracy Strong suggest reading Weber’s lectures as answers to the questions: “What can I possibly know?” and “What can I possibly do?” (Owen and Strong, 2004, p.xv). In an age of disinformation (where what is ‘known’, even the facts of the day’s news, is constantly contested), and an era that requires us to “do” an awful lot (especially concerning the climate crisis), these questions are more pertinent than ever.

Owen and Strong argue that a “concern for the political education of modern men and women ... preoccupied Weber throughout his career.” (Owen and Strong, 2004, p.xvli) Moreover, “Political education, as Weber conceives it, consists in being trained to accept the realities of the world in which one lives.” (Owen and Strong, 2004, p.xlvi). “Politics as a Vocation”, viewed in this light, is an exercise in political education: a lesson on how to work within the institutional and organisational setting of the state. Weber’s political lesson is to work within the bounds of the current institutional arrangements to achieve change.

How do we work around, or within, a state (or international system) that seems unable to change, though? To go one step further, how do we act within a political climate that is full of disinformation, division, and falsehoods? These are questions addressed by Walter Benjamin’s (in) famous “Critique of Violence” in response to Weber’s essay. As Alexander Procyshyn (2014) puts it: “In its timing and structure ... [Benjamin’s ‘Critique of Violence’] resonates with and seeks to critically respond to Max Weber’s influential account of political action and practical reason in “Politik als Beruf” [‘Politics as a Vocation’]”. (Procyshyn, 2014, p.390) In Procyshyn’s essay he argues that Benjamin’s project was intended to be a critique of “(Post-)Kantian conceptions of practical action that emphasise the role played by institutions in shaping agents and their potentials for action.” (Procyshyn, 2014, p.390). While being a general critique of “(Post-)Kantian conceptions of practical action”, Procyshyn claims Benjamin’s essay is primarily a critique of the Weberian view of politics and political rationality. That is to say, Benjamin is not only offering a critique of violence, but a critique of practical reason as viewed in the Weberian sense of what is achievable within the current institutional frameworks. Procyshyn argues that Benjamin’s text is offering this as a means of breaking out of a limited and bounded account of law: “to say that an action is objectively impossible means simply that it is not consistent with the status quo, not that it is incoherent or unrealisable.” (Procyshyn, 2014, p.393).

Weber sees Politics as “slow, powerful drilling through hard boards” (Weber, 2004 [1919], p.93). He argues that we need to utilize the institutions of the era, combined with a practical knowledge of what is achievable, to effect change. Benjamin, in contrast, seeks radical,

fundamental and expedited change. He seeks to break out of what he takes to be the shackles of present thinking and to effect revolutionary change. At the intersection of politics, knowledge, education and law is Benjamin's account of breaking out of the bounds of practical reason. Where Weber sees a need for reason to be directed through the current institutional frameworks, Benjamin argues that what is needed is to cleave practical reason from its shackles to institutional rationality of the capitalist state. While Benjamin the Marxist primarily seeks to effect change through a revolutionary general strike, there is another way he argues we can cut through the disinformation and false beliefs imbued in us by capital: education.

Benjamin states: "The divine [revolutionary] power is ... found in present-day life in at least one sanctioned manifestation. The educative power, which in its perfected form stands outside the law, is one of its manifestations." (Benjamin, 2007 [1921], p.297). It is important here to note that what is translated as "educative power" in the English translation is rendered by the word *Gewalt* in the original text (Benjamin, 2015 [1921], p.60).² The same word that Benjamin uses to describe the force of law, and the force of revolutionary violence. Benjamin is, clearly then, ascribing the same type of power to education as he does to the proletarian strike.¹ Education provides the ability to see beyond the current legal system. It gives us a means to see beyond what is taken to be practically achievable within the present institutions. Benjamin's *Gewalt* can be understood as positing itself within the relationality of legitimate/illegitimate authority, and in so doing casts education as one possible agent of revolutionary change: education gives us a means to challenge disinformation and illegitimately used authority. Education gives us the means to critique, question, and overthrow. This is one lesson we can take from Benjamin's essay.

What insights can the debates of two German political and sociological theorists of the early 20th century provide to those of us living a hundred years later? In a world where politics was radical, reactionary and constantly changing, Weber put education at the forefront of his thinking. Where Benjamin saw a conservatism in Weber's account of political education and "practical reason", Benjamin gave us an argument that

More politics, more informed political debate, more education, would help cross the rivers of disinformation and division.

suggests education is one way we can break open the possibilities of the present. Benjamin's description of education as a means for revolutionary change seems both accurate and concerning: after all, Benjamin never tells us what education means. We can probably assume the rise of groups like Extinction Rebellion would embody what Benjamin takes to be both the educative and potentially revolutionary challenges to the status quo. Does this mean, however, that the rise of anti-vaccination groups and falling vaccination rates could also be interpreted as a means of challenging state power through (misinformed) education? Public health interventions are, after all, fundamentally tied to the institutional rationality of the state. Benjamin's esotericism does not provide us with clear answers. Yet it does seem like we need to both break open contemporary rationality and utilise the institutional rationality of the state. We seem to be, at least in the industrialized portion of the world, being pushed towards a breaking point at the intersection of politics, capital, public reason and law.

Standing at this crossroads of politics, the economy, and democracy, we can draw on the insights of both Benjamin and Weber. We need to use the state to effect fundamental change, but we also need to see beyond the bounds of the contemporary capitalist state. We need to challenge the status quo, but we also need to utilize its levers – there is no way of effecting the required change without it. The insights I believe we can take from the Benjamin-Weber debate, perhaps uncomfortably, is more politics and more political education. The echo chambers of social media, the increasingly polarized political landscape, and the increasingly powerful reactions of the ecosystem to human activity all contribute to a need for common endeavor. More politics, more informed political debate, more education, would help cross the rivers of disinformation and division.



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The Higher Education Learning Crisis

Dr. Richard Hersh
Yale University, United States

There is a crisis in American undergraduate higher education requiring a shift away from spurious magazine rankings, unacceptable graduation rates, inequitable admissions selectivity, rising costs, and administrative and faculty inefficiency to a more fundamental problem: Students do not learn enough in college, period.

This higher learning crisis is not unique to the United States, although here it is more documented and publicly discussed. For the past several decades, high costs and unemployment catalyzed public demand for greater accountability and learning assessment. Many countries, unlike the United States, rely on exit exams, but only recently have researchers studied institutions' impact on learning compared to appropriate peers – how much, for example, is institutional quality a measure of learning caused by attendance at a specific institution versus entrance selectivity, what is known as the “diamonds in, diamonds out” phenomenon.

Other countries have emulated American universities because of prestigious worldwide rankings, but such emulation may be hollow as rankings are based on scholarship and research prowess, measured by numbers of publications and scholarly citations, not undergraduate learning. Indeed, higher education globally continues to follow a relatively passive learning tradition with full responsibility for learning placed on students. Ironically, some of the world's best teaching and learning now happens on campuses jointly run by host countries and American universities, like Yale and the National University of Singapore. A new beginning allows faculty the freedom and creativity to develop more

efficacious, learner-centered curricula and pedagogy.

Too many graduates are not prepared to think critically and creatively, speak and write cogently, solve problems, comprehend complex issues, accept accountability, take the perspective of others, or meet employer expectations. In their 2010 book Academically Adrift: Limited Learning on College Campuses, Richard Arum and Josipa Roksa provide statistical evidence that most students do not make significant gains in critical thinking, problem solving, analytical reasoning, and written communication skills while in college – showing that the gap between what institutions promise and what they deliver has become a chasm.

In 2006, the Spellings Commission on the Future of Higher Education scathingly labeled higher education as “risk-averse,” “self-satisfied,” “unduly expensive” and “ineffective.” In a landmark study, *Greater Expectations: A New Vision for Learning as a Nation Goes to College*, the Association of American Colleges and Universities relayed the urgency: “even as college attendance is rising, the performance of too many students is faltering.” This costly failure – in the face of a seemingly inexorable precipitous rise in tuition costs and student loan burden – must be resolved to sustain political, social, economic, and scientific leadership. The claim that the American system of higher education is the “best in the world” has become an empty accolade masking inadequate quality and quantity of learning.

Culture off and on campus is at the heart of the matter. The United States has bastardized the bachelor's degree by turning it into a ticket to a job.

Meanwhile, the academy has adopted an increasingly customer-based ethic reaping costly effects: “Professional training” has displaced the expectations and standards of a rigorous liberal education – with teaching and learning devalued, deprioritized and replaced by an emphasis on simpleminded metrics that feed magazine rankings, enrollment, winning teams, facilities, with more revenue from sideline businesses. Teaching duties are increasingly left to adjunct faculty with few incentives for tenure-track faculty to spend time with undergraduates or improve teaching. Expectations for hard work in college have fallen victim to smorgasbord-style curricula, large lecture classes, institutional needs to retain students in order to make the budget and inflated grades for minimal student effort. None of this makes for higher learning.

A renewed academic culture must embrace the cumulative and collective nature of higher learning.

The prevailing academic culture purveys a curricular and teaching model of credit hours per course founded on the presumption that topics and skills should be packaged into one or two courses, such as freshman composition, or a series of courses in a major or minor. Each course or series, presumed to stand alone, signifies a module of learning achievement. That module – even if it comprises the requirements for a minor or major – is too often compartmentalized and disconnected from other learning during that semester. This system conveys to students and teachers alike that learning occurs best when students stack individual courses like building blocks – as if learning becomes greater as the pile grows. But that assumption is false. No mortar connects these blocks; they topple easily, and the learning is disconnected and ephemeral. Indeed, too few recognize or acknowledge that the “higher” in higher education is ultimately about its being transformational nature in which students develop more complexity in their thinking, greater empathy for

others, and a far more developed sense of their own social/emotional identity and their own inextricable connection to others as individuals and to a larger sense of humanity. Such transformation does not happen easily, much less by chance as it does now. Rather, it is a result of an intentional academic community whose curriculum and pedagogy are structured to effect such transformation. Far more student engagement with faculty and mentorship are necessary conditions. This, in short, requires a substantial change in institutional culture.

A renewed academic culture must embrace the cumulative and collective nature of higher learning. The core learning outcomes proffered by higher education – critical thinking, effective written and oral communication, the ability to use rather than simply acquire knowledge to solve problems – are ineffectively attained in one or two required courses or random out-of-classroom learning experiences. One or two writing seminars are insufficient for producing competent writers. A required general education course in critical thinking alone cannot teach how to evaluate credibility of information and solve problems. Students do not learn qualities of effective leadership solely by serving as an elected officer of a student organization. It is not surprising, then, to hear faculty lament, “They were supposed to learn how to ____ before they got to my course,” filling the blank in with any number of skills. Autonomy of disciplines, lack of true investment in general education, absence of faculty consensus about what students should learn across the curriculum, and weakness of academic advising undermine any sense of coherence in students’ learning. The consequence – and working assumption – is that constructing coherence among individual courses and learning experiences is the student’s responsibility alone.

Success in achieving core higher-learning outcomes requires an approach best accomplished cumulatively – requiring more instruction, practice, assessment and feedback than is now provided, or expected, within single courses or other isolated learning experiences. Learning how to think and write creatively, for example, are skills optimally learned over the span of an entire undergraduate program intentionally

planned and assessed by faculty and staff across all courses and programs. Writing-across-the-curriculum initiatives are one example of the application of this idea, but the concept can also include across-the-curriculum demand for critical thinking, problem solving and ethical development.

This is not to suggest that such core outcomes are content free. One must think and write about something, and subject-matter expertise is a necessary, contextual condition. Offering a smorgasbord of course offerings in the name of “student interest” only serves to reify the belief that the student as customer knows best. Knowledge acquisition by itself is not sufficient; higher learning entails the ability to apply such knowledge, using it to inform one’s thinking, writing or discourse. While disciplinary competence necessarily differs across courses and programs, the core work of higher learning becomes cumulative when coursework reinforces common outcomes, intentionally progressing in complexity and sophistication towards collectively established learning goals. For example, a well-written paper in history offering a critical analysis of the causes of World War I would share standards for critical thinking and effective writing with a paper analyzing threats to biodiversity. A cumulative approach to higher learning requires that students are taught to an increasingly higher standard of competence – thus, a more integrative, stable and coherent education.

Cumulative learning requires faculty to collectively agree on which outcomes, expectations and standards to share and endorse, reinforcing them throughout all courses. Faculty must provide timely and appropriate feedback to students. Understanding “faculty” as a collective noun responsible for outcomes involves a substantial institutional culture shift.

A college education that fails to ensure that students learn is not worth the cost at any price. High cost plus poor quality equals low value. The answer is not throwing money at problems. Societies must take steps to improve the quality and quantity of learning, changing the very culture of higher education as a whole.

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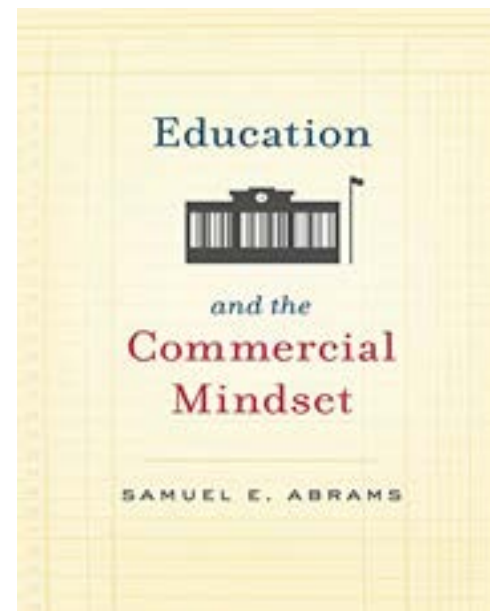


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Is School Privatization Effective?

Interview with Professor Samuel E. Abrams
Columbia University, United States

In this Q&A with Samuel E. Abrams, we learn about central aspects of his book, [Education and the Commercial Mindset](#) (Harvard University Press, 2016; paperback, 2018). Diane Ravitch described *Education and the Commercial Mindset* in The New York Review of Books as "an elegant analysis of the workings of market forces in education." In *Dissent*, Leo Casey called the book "the most detailed and comprehensive analysis of the school privatization movement to date." Abrams is the director of the National Center for the Study of Privatization in Education at Teachers College, Columbia University.



While privatization of schools in the United States gained popularity in the 1990s, you've written that its origins go back to the 1950s. Would you briefly discuss its early history and subsequent evolution?

A good place to begin is Milton Friedman's essay "The Role of Government in Education," published in 1955 in a festschrift honoring the Rutgers economist Eugene Agger. Friedman contended that governments would be wise to outsource school management to private operators and to limit their own authority to guaranteeing that schools met "certain

minimum standards such as the inclusion of minimum common content in their programs, much as it now inspects restaurants to assure that they maintain minimum sanitary standards." To Friedman, the best judges of school quality were parents. In this regard, Secretary of Education Betsy DeVos has channeled Friedman. DeVos is quite loyal to Friedman's message. The answer for Friedman--as it would be for DeVos--was to give parents vouchers for a fixed sum to pay for their children's education at a school of their choice. In Friedman's view, this voucher system would not only give parents more choice but also improve the quality of schools through competition and boost teacher salaries through competition

by schools for better staff. Schools in this system could be religious schools, conventional public schools, and commercially operated schools.

Yet Friedman's proposal did not take hold for decades. Part of the problem was opposition to public money funding enrollment of students in religious schools. The separation of church and state is a cardinal principle of many public education advocates. But that obstacle would be cleared with the Supreme Court decision of *Zelman v. Simmons-Harris* in 2002, which allowed parents to use vouchers to send their children to religious schools on the grounds that they could choose to use the vouchers at other schools.

As for for-profit school management, to many people the concept seemed incongruous. But in the wake of the fall of the Berlin Wall in 1989, a certain kind of laissez-faire triumphalism took hold, giving for-profit school management some life. Several educational management organizations (EMOs) won confidence on Wall Street to serve as for-profit subcontractors for school districts. But the for-profit mission generated pushback, and EMOs never came close to fulfilling expectations. Nonprofit charter schools, however, did gain traction. The first was established in Minnesota in 1991. We now have more than 7,000 charter schools across the country. As charter schools, these institutions are funded by the public but independently managed. A small portion--about 10 percent--are commercially managed. As for vouchers themselves, with *Zelman v. Simmons-Harris*, they're slowly gaining traction. States like Indiana, Louisiana, Ohio, and Wisconsin have growing voucher programs. And states like Arizona and Florida have something similar with their tuition tax credit scholarship programs.

You've noted that years ago Wall Street predicted for-profit schools could perform better than public schools and would constitute up to twenty percent of schools by 2010. Actual results have been far lower. Why were those predictions wrong?

Forecasters and investors on Wall Street failed to take into consideration that the public might not be comfortable with for-profit school management. Amidst the celebration of the free market in the wake of the fall of the Berlin Wall, these forecasters and investors overlooked decades of research in economics concerning information asymmetry and contract failure. Where there's insufficient transparency for proper contract enforcement, the market doesn't work. And that's precisely the case in education because the payer and recipient are separate parties. The result is a third-party problem, with the payer as one party, the provider as a second party, and the recipient as a third. In education, the child is the immediate consumer, but she's not in a very good position to judge the quality of service rendered. The same holds for the parent, legislator, and taxpayer because of their necessary distance from what's happening in school. Trust must fill the void in such a scenario, as it must in elder care, medicine, and corrections, too.

As there's so much opacity involved in the very process of education, every incentive to cut corners by operators must be curbed. Nonprofit operators are hardly blameless, but because their compensation is fixed, they have less incentive to cut corners. The compensation of for-profit operators, however, is not fixed, which gives them significant incentive to cut corners. The ultimate result in this story was pushback from parents, journalists, taxpayers, and legislators. For-profit operators of schools ran into opposition at nearly every turn. And many investors lost their shirts. While it's true that textbook publishers and food service operators can make money from schools, they're providing discrete goods and services. School management is not a discrete good or service. It's a complex service, and far too complex, as I've tried to explain, for easy contract enforcement.

What can be learned from school voucher programs used in other countries, such as Chile and Sweden?

I address the lessons of Sweden in the penultimate chapter of my book, [Education and the Commercial Mindset](#). Vouchers in Sweden have

provided parents and students more choice. But 75 percent of schools funded with vouchers in Sweden are commercially managed. And that has led to problems: the predictable corner-cutting by for-profit operators as well as grade inflation to make schools seem more successful in raising student achievement. In addition, segregation in some cities has climbed, as students with similar backgrounds head to particular schools in order to be together. More fundamentally, the lesson from Sweden is that turning to the market as the answer rather than investing in better teacher preparation and pay, as done by its neighbor Finland, has proven to be a mistake. Privatization in Sweden did nothing for teacher preparation and actually drove down teacher pay.

As for Chile, I address the lessons there in my book but in much less detail. The big difference between the Chilean and Swedish systems of vouchers is that in the latter, the voucher is equivalent in value to the tuition of any privately managed school. That is not true in Chile. And that has meant significant segregation by class in Chile. The elite schools in Chile, amounting to 7 percent of the total, do not even accept vouchers. Until recently, many of the private schools in Chile that accepted vouchers required additional tuition. This topping-up kept out many students. In 2008, Chile introduced its Preferential School Subsidy Law, which increased the value of vouchers by 50 percent for students from families in the bottom 40 percent of the country. This change led to significant improvement in academic outcomes for poorer children. In 2015, the government of Michelle Bachelet vowed to outlaw for-profit school management and to force private schools accepting vouchers to accept them as full payment for tuition, meaning an end to the practice of topping-up that led to significant segregation by class. These reforms will need time to take effect.

What makes Finland's system so special?

As I explain the final chapter of my book, Finland did in the 1970s what Sweden had proposed doing in the 1960s but never followed through in accomplishing: Finland overhauled teacher preparation so that by

[U.S.] fixation with results in reading and math on standardized tests has crowded out time for art, music, crafts, labs, play, and physical education. It has moreover deprofessionalized teaching.

1979 all students preparing to become teachers took a five-year B.A./M.A. program involving substantial study of pedagogical theory and practice. Finland remains the only Nordic country with this requirement. Teacher pay climbed with this reform, with the result that teachers at the upper-secondary level (grades 10-12), for example, earn 110 percent of what their college classmates make. By contrast, their counterparts in Norway and Sweden earn 70 and 83 percent, respectively. This difference in purchasing power is substantial. Moreover, the Finns make school appealing, with lots of art, music, crafts, labs, play, and physical education so students want to come to school. In the process, they learn much through doing. And because the teachers are so well prepared and have consequently internalized national expectations, the Finns do not feel the pressure to administer standardized exams to all students. The Finns rather administer standardized exams only to small samples of students. This spares students, teachers, and parents alike a great deal of anxiety. It also preserves valuable time for instruction.

What's your assessment of current U.S. education policy and effectiveness? What would you prescribe to 'fix' it?

We have gone down the wrong road in the United States. Our fixation with results in reading and math on standardized tests has crowded out time for art, music, crafts, labs, play, and physical education. It has moreover deprofessionalized teaching. We need to follow the Finns in improving teacher preparation and pay, limiting standardized testing to small samples of students, and rounding out our curricula. And we have to accept that much of our schooling problems have little to do with schooling. They're about poverty. Some students through hard work and talent will prevail despite the forces of poverty but only a small percentage. The vast majority suffer. To help these children, we have

to improve everyday living conditions, invest heavily in high-quality preschool, and provide high-quality after-school programs in art, music, crafts, and sports. These reforms cost a lot of money but only in the short term.



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It's Time to Tackle Promiscuous Degree Requirements

Frederick M. Hess

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Obstacles to employment stifle economic opportunity and impede social mobility. That's why more than two dozen states now ban public employers from inquiring about applicants' criminal history, given concerns that capable job candidates will be turned away or deterred. In occupational licensing, a bipartisan array of reformers have taken on costly, unnecessary barriers that restrict entry to quotidian positions such as masseuse, nail technician, and florist.

Democrats and Republicans alike are seeking avenues to open the doors of opportunity to those who've been locked out. That's why it is so bizarre to see that the biggest and most significant barrier to employment in American life has remained remarkably unchallenged. That barrier? The use of the college degree as a default hiring device. Indeed, degree requirements are ubiquitous, even as employers express skepticism that colleges are preparing graduates for work. Indeed, researchers at the Harvard Business School reported in 2017 that nearly two-thirds of employers admit to rejecting applicants simply for lacking a college degree—even when otherwise qualified for the job.

Burning Glass Technologies reported in 2014 that employers increasingly require new hires to have bachelor's degrees for positions where current workers don't have one and where the requisite skills haven't changed. Employers do this even though the researchers found that college graduates filling middle-skill positions cost more to

employ, have higher turnover rates, tend to be less engaged, and are no more productive than high-school graduates doing the same job.

Why would employers behave in such seemingly irrational ways? In large part, it's an unintended consequence of the federal anti-discrimination law. Title VII of the Civil Rights Act of 1964 prohibited employers from discriminating against workers or job applicants on the basis of race, color, religion, sex, or national origin. It did, however, allow the use of "professionally developed" ability or employment tests so long as they weren't "designed, intended or used" to discriminate.

In *Griggs v. Duke Power Company* (1971), the Supreme Court unanimously interpreted this language to mean that when a selection process disproportionately affects minority groups, employers must show that any requirements are directly job-related and an accurate predictor of job performance. This standard, which Congress codified into law in 1991, applies to any employment test or selection procedure, including educational requirements. This can make hiring tests legally perilous for employers. But while it's been scrupulously applied to non-educational employment tests, it hasn't been to college degrees—despite huge disparities in the rate at which "protected classes" earn degrees.

For employers, college degree requirements are thus an easy, risk-free way to screen applicants while sidestepping legal culpability. Colleges reap outsized benefits from acting as the gatekeepers to employment.

The big losers are workers and would-be workers; after all, only a third of U.S. adults have a four-year degree. Degree requirements summarily disqualify non-credentialed workers with relevant qualifications and experience from the applicant pool, while holding others hostage to their willingness to purchase a piece of paper that may convey little in terms of relevant skills or knowledge.

In short, Washington has distorted the labor market, making college degrees an all-purpose, legally safe proxy for employability and leaving employers nervous about alternative mechanisms. This has stymied the

College degrees should operate on a level playing field; they should be treated neither better nor worse than other credentials and professionally devised employment tests.

market for reliable alternative credentials and employment assessments.

What might be done? For starters, degrees should hold value because of the skills and knowledge they represent, and not because colleges have hit upon a scheme that enables employers to engage in discriminatory hiring.

College degrees should operate on a level playing field; they should be treated neither better nor worse than other credentials and professionally devised employment tests. Courts and the executive branch should require employers to justify the use of college degrees in the same way they would any other employment test. It should be much more difficult for employers to casually use college degrees as an all-purpose screen, and much safer for them to use more informative, rigorous, and job-relevant screening tools. This requires reformers to work with employer groups to develop an alternative set of legally sanctioned policies and practices that employers can rely upon.

For starters, the President can strike a meaningful and symbolically important step by ordering the Office of Personnel Management (OPM) to rewrite its rules regarding requirements for a college degree for the federal government's two million employees. The OPM should be directed to modify existing guidelines, which allow agencies to routinely require the B.A. for entry level positions.

New OPM guidance should stipulate that a degree may only be required when it is "job-related" and provides a "reasonable measure of job performance." That should extend to the classification and qualification standards governing the hiring of four million federal contractors. Governors should pursue a similar tack in their respective states, which collectively employ another five million. Such measures could affect upwards of 11 million jobs. Opening millions of positions to a broader pool of applicants would make a powerful symbolic statement and could catalyze the marketplace for alternative credentials and hiring tools.

At the same time, the Department of Labor should work with employers and other stakeholders to develop reliable, useful, and legally accepted alternative hiring screens. This work needs to proceed in concert with efforts to open up opportunities to qualified individuals and to discourage employers from defaulting to relying on degrees as a dubious and discriminatory screen.

Federal student aid is currently unavailable for alternative credentials pursued through avenues such as apprenticeships, non-degree programs, and training partnerships. Congress should address this in legislation. In the meantime, since sponsoring institutions and accreditors get to decide whether programs are eligible for federal aid, governors and state boards of higher education should direct traditional, public institutions to extend their eligibility umbrella to select nontraditional providers.

Upending the college degree's role as a one-size-fits-all fast pass to employment would require colleges to work harder to make the case that

they're worth the time and money. That's all to the good. College can be a very good thing. That's not the issue. The point is that an inconsistent judicial standard, excessive regard for employer convenience, and a well-fed college cartel oughtn't to oblige Americans to pay a ransom in order to seek professional success and remunerative employment.



Frederick M. Hess is a resident scholar and the director of Education Policy Studies at the American Enterprise Institute (AEI), where he works on K–12 and higher education issues. He is the author of Education Week's popular blog "Rick Hess Straight Up," and is a regular contributor to *Forbes* and *The Hill*. Since 2001, he has served as executive editor of *Education Next*.

Dr. Hess is the senior founding fellow of the Public Education Foundation's Leadership Institute of Nevada. He also sits on the review board for the Broad Prize for Public Charter Schools and serves on the boards of directors of the National Association of Charter School Authorizers and 4.0 Schools.

Teaching and Learning Through Data Informed Decisions

Interview with Jo Besford
Green Shoots, South Africa

Would you discuss Green Shoots, its mission, and briefly discuss your approach to education?

Green Shoots is a South African education organization founded in 2012 by two former teachers, Mark Swartz and Jo Besford. We provide technology enabled education solutions that are people focused.

“Supporting Maths teaching & learning through Data Informed Decisions” - is our tagline! We are targeting Primary school Maths teaching and learning, as strong foundations in Maths built in the lower years, opens so many future opportunities for the learners. Our use of Data INFORMED Decisions (rather than Data DRIVEN Decisions) highlights the importance we place on marrying the insights and experience of teachers with the support of tech enabled Maths programs and learner analysis.

Our mission is summarized as “Quality education for all.” The outworking of this mission is to provide the best quality Maths solution (product and support) to as many children and schools in firstly South Africa, then Africa.

For us, the overarching aim, in our Integrated Maths Programme, is that we provide measurable value to all we engage with - learners, parents/guardians, teachers, school managements, and education officials or partners. Providing value must be determined by our partners, not pre-determined by us. It is an ongoing conversation that prompts us to keep innovating and adapting.

We believe in a socially embedded approach to innovation, where all

stakeholders are equipped and capacitated to innovate and produce change using our solution.

Inclusivity is a core value that guides all our solutions. We take the ALL of our mission seriously. Our solutions do not have a “premium aspect” for the more economically advantaged schools. ALL schools get the best solution. This also means any tech offering has to be able to be accessible with low or no connectivity and on any device with the basic processing capacity. ALL matters!

If we really aim to reach ALL then we need to engage with and support the existing education system. We cannot create a shadow education structure to deliver our solutions. Scale and sustainability necessitates systemic change in adopting these new practices. This change can only occur when we understand the different contexts and offer ongoing value to education stakeholders throughout the system.

What sparked your desire to found Green Shoots?

South Africa still has many challenges post-apartheid. It was ranked the most economically unequal country in the world by the World Bank in 2019. Set against that, we have a third of the population (17 million) under 14. The need to shift the current reality for these 17 million children through education is where Green Shoots started.

In 2012, Mark Swartz and myself were asked the question, “What could you do differently to support Maths teaching if you were given the chance?” by an overseas funder. We knew given this chance, we could

take what we knew worked and be honest about what didn't. As former Maths/Science teachers; we wanted all children, no matter where they were born, to have the best opportunity to succeed especially in Maths. It's this belief that birthed Green Shoots.

Through your methodologies and tools, what have you identified as some critical success factors and constraints to effectively providing education?

From our experience in delivering tech-enabled solutions we have found:

- School management is key - it can facilitate change even in the most challenging circumstances or can stifle the potential growth. Individual teachers can succeed in any circumstance, but an engaged school is driven by a proactive management.
- Solutions or policies are not being implemented in a vacuum - take time to understand the complexities of different contexts and listen to the people on the ground. Imposing a strategy/solution with no room for local actors to engage with the process leads to a compliance/tick box approach.
- Leverage the potential and support of the wider "out-of-school" ecosystem - education does not just happen in school. Even parents with limited education are keen for their learners to achieve more than they did.

Community support for education within and especially outside school can make all the difference to learners. There are many NGOs, Corporate Social Responsibility programs, and motivated individuals who can provide that vital lever/encouragement to impact a learner's education journey.

- Engage with the current education system from the start. Often external programs can bypass or only minimally engage with the

current governance and support structures. This can lead to schools being torn between "serving two masters" or projects ceasing when funding ceases.

What are the special challenges facing students and educators in Africa?

The first challenge is when solutions that are generated outside of the continent view Africa as a homogenous entity rather than the huge range of countries within which there are widely differing contexts. We can only speak from our experiences within South Africa, and even then there are limitations to our perspective.

We experience that often it is the "outside factors," linked to socio-economic conditions, that overshadow the learning environment and ultimately impact children's pathways to success. For some children, their priority isn't learning but survival.

Examples of some of these factors are:

- Poverty and its effect on the home environment which can also impact health, nutrition, and ability to study outside of school
- Parent(s) working long hours so children have childcare/household responsibilities
- Child-headed households due to children being orphaned/ due to parent(s) working away
- Exposure to violence/trauma even from an early age

A non-socio-economic related challenge that does not just occur within South Africa, is learners studying in a language which is not their mother tongue.

If money alone could fix education issues in Africa, we would be a long way to seeing quality education for all.

For educators, firstly some are having to teach learners who have the challenges discussed above, which of course may impact their receptivity to learning. Also, there are the well documented challenges that are still a reality for many teachers of large Primary class sizes (45+) and patchy infrastructure (e.g., lacking chairs to classroom resources, limited connectivity outside of urban centers).

There are a higher proportion of rural schools within the country with their own additional challenges such as multi-grade classes and limited availability of specialist teachers. Also, large distances potentially limits the availability of regular “in person” support from the system or outside agencies.

But even with this it is definitely NOT all doom and gloom - the very challenges mentioned are the catalyst for unusual innovations and drive great determination in teachers and learners to succeed despite the challenges. It is not a surprise that some of the more creative solutions for education globally are coming out the areas, not just Africa, that are perceived to have some of the bigger challenges.

Are education systems currently receiving sufficient funding in Africa for their programs?

In South Africa, the government spent R246 billion or 16.7% of the government budget for 2018/19 on education. It is not always about “sufficient” funding but the choice of where and how that funding is being used and the ability to measure outcomes that are a bigger issue. If money alone could fix education issues in Africa, we would be a long way to seeing quality education for all. If only it was that easy...

Top-down, one size fits all, or even worse a “first-world copy and paste” solution, are not delivering the changes needed, no matter how well they are funded! It is more about the HOW rather than the HOW MUCH? Outcomes based funding for programs, that allows for innovation within implementation helps build more robust programs with a greater likelihood of sustainable outcomes. Greater ongoing evaluation with respect to project outcomes helps ensure that the necessary adaptations to implementation and design are continually being addressed.

Sustainable, larger education solutions take a long time to deliver and are messy to implement as they require the buy in of a whole range of stakeholders to show the desired impact.

Systems that include a bottom-up conversation in the design and ongoing implementation have a greater chance of showing a “return on investment.”

Back to innovation tools and techniques, do you think there are any misconceptions about using technological tools that support effective education?

- Hardware will fix everything! If I just buy tablets/computers for everyone, then results will increase. We strongly advocate that EdTech is never a silver bullet, especially in diverse or challenging contexts.
- The newest, zingy-iest technology development must be the most effective in the classroom. The solution must fit the problem not vice versa, and sometimes low tech is far more effective.
- Training equates to a quick to session on how to switch on/log in and navigate. For EdTech tools (are they are only tools) to facilitate the shifts in teaching and learning that many would love to see, much more is needed. Users - whether learners, or the adults that support them, need to undertake a journey from implementation (How to I use this?) to integration (How do I change how I learn/teach with this tool?) to

adoption (This is integral to how I learn/work, How can I improve on this solution?). EdTech can't be a "drop and go" solution.

- It is not a race. EdTech is more effective when stakeholders are capacitated to engage and subsequently adopt the new methodology, no matter how long it takes or how much scaffolding is needed. Our most effective teachers with EdTech now are some of those who took their time on the journey.
- EdTech solutions with great tech ideas but no or limited understanding of the differing classroom or school contexts. This thinking can lead to a solution is more likely an add-on, or only available for a few. While these type of solutions can have a place, they will probably not precipitate large scale change.

What do you view as a major gap in Africa's educational systems? If that gap is filled, how would it improve education in Africa and help in achieving Green Shoots vision statement, 'For all children in Africa to be able to experience quality education'?

Again, we would not speak for "Africa" just the part we support!

The need for multi-stakeholder collaboration. If all those who support education could actually collaborate in reality not just over Twitter/ networking conversations. There are SO many stakeholders who are working, funding, and innovating in order to see quality education for all become a reality; the education systems, local and international donors, NGOs, businesses, and community organizations. But unfortunately, often the sum of the whole is competition, working at cross purposes, and duplication of efforts and resources.

Real collaboration is challenging, involves sacrificing some control, working with the current system instead of bypassing it, mutual accountability, and a willingness to share ideas, even IP. There are some excellent examples of where this is happening already!

Such collaboration is leading to an alignment of goals with the system's educational priorities. A unified approach to supporting schools/learners leads to ability to deploy a range of specialist support, where needed. This approach allows many committed local groups to play a role in coherently contributing to the bigger educational picture.

The goal is a genuine shift in the educational realities, expectations and futures of the children we are all espousing to support! It might seem impossible but according to Nelson Mandela (and our adopted Green Shoots mantra) "It always seem impossible until it is done."



Jo Besford is a Director of Green Shoots, an education social enterprise based in South Africa. Green Shoots blends the use of cloud-based resources, online learning analytics and continuing professional development programs to implement 'data informed decision making' across schools and education districts.

She moved to South Africa in 2007 after 11 years in a teaching & advising role in the UK. Ms. Bedford takes a special interest in the often neglected 'warmware' component of EdTech; she has developed and implemented ongoing professional development programs for different education stakeholders. These programs ensure that these stakeholders embrace, own and sustain the technology-assisted learning introduced.

Seeking Returns on Education in the Middle East

By Ian Kingsbury

Johns Hopkins University, United States

In the fall of 2019, Egypt, Lebanon, Iran, and Iraq were gripped by public protests against corruption, low wages, and poor public services. The scene was frighteningly familiar: Middle Eastern and North African (MENA) governments have experienced waves of protests in recent years as they struggle to implement meaningful reform to alleviate long-standing grievances.

The consequences of the region's protracted economic misery are global and multi-faceted. MENA governments remain vulnerable to domestic instability and popular unrest, which in turn jeopardize foreign investment. Domestic conflicts risk global spillovers in the form of disruptions in oil production and distribution, as well as migrant crises. Lastly, the threat of inter-state war increases as governments look abroad for solutions to deflect problems at home.

Economic deprivation is also a root cause of radicalization. Notably, however, the risk of radicalization is not distributed evenly across the dispossessed. Rather, unemployment is an especially acute risk factor for radicalization among individuals with comparatively higher levels of educational attainment.

The reason for the link between education and radicalization is simple: while people have a variety of different motivations for procuring

additional schooling, the prospect of improved labor market outcomes is almost always at the heart of the calculus. In the Middle East, those hoping to leverage their education for higher wages are almost inevitably disappointed. Indeed, the region lags significantly behind the rest of the globe in what economists call "private returns to education," or the financial benefit derived from additional schooling. In Syria, for example, the rate of return to an additional year of schooling hovers around zero percent. In other words, a Syrian with a college degree can expect to earn as much as a neighbor with no formal education. In Egypt, the link between education and earnings is similarly elusive, a grim reality which some Egyptians have protested by burning their Ph.D. diplomas in front of the Education Ministry.

In contrast, within the United States and Europe, educational attainment remains a powerful predictor of personal income. Those who work hard, complete college, and learn useful skills enjoy a high probability of the labor market rewarding their efforts.

Upon close inspection, it is clear that several salient features of the MENA political economy contribute to and compound one another in weakening or even decoupling the conventional relationship between educational attainment and wages.

For one, the region's schools are marked by poor performance and consistently round out the bottom of country rankings according to international assessments. The issue is not one of overall development: Qatar, which boasts the world's highest GDP per capita, trails countries such as Moldova and Thailand. Potential explanations include archaic

In the Middle East, those hoping to leverage their education for higher wages are almost inevitably disappointed.

teaching practices (e.g. rote learning), excessive centralization of curriculum, and schools devoting a significant amount of time studying religious texts rather than core subjects. In Saudi Arabia, for example, elementary students spend about half the day studying Islamic theology.

Dependence upon oil exports likely compounds poor education or at least impedes efforts toward improvement. Several Gulf countries export enough oil to self-fund government operations and placate their populations with generous social welfare programs or even direct lump sum cash transfers. Because governments can self-fund through oil revenue, the functions of government and personal prosperity of dynastic rulers do not depend upon the creation of a modern middle class with strong human capital stock.

Dependence upon petroleum exports is also problematic insofar resource booms resulting in currency appreciation renders other exports less competitive on the global market. Given that oil extraction and distribution create a limited number of jobs and that many of them are taken by foreigners (in part a consequence of the region's low-quality schools), many laborers feel the costs of national resource wealth and experience limited benefit.

The labor market emphasis on social capital over human capital is perhaps the most important contributing factor in explaining the region's low returns to education. Job attainment and promotion are rarely meritocratic, but dependent upon familial networks and tribal loyalties. Labor markets are so nepotistic that in some MENA countries more residents report that "jobs are only given to connected people" than report "there are no good jobs available" when asked to identify employment constraints. It is not a coincidence that the region features the world's highest skilled emigration rate.

Taken altogether, these phenomena create a self-sustaining storm of economic misery. Given the global ramifications, the need for reform is at least as great as the challenge.



Ian Kingsbury is a Postdoctoral Fellow at the Institute. His research interests include civic outcomes, educational pluralism, and international education. His dissertation examined the trade-offs of homogenizing versus pluralistic education in shaping civic attitudes and outcomes in the United States and Middle East. He previously worked alongside young adults with learning differences in a residential setting, helping them to cultivate independent life skills. Ian holds a B.A. in government and history from the College of William and Mary, an M.A. in education policy from Teacher's College, Columbia University, and a Ph.D in education policy from the University of Arkansas Department of Education Reform.

Challenges and Successes for West African Education Programs

Interview with Emefa J. Takyi-Amoako
Oxford ATP International Education, United Kingdom

On a regional level, what are your views on the biggest issues and challenges hampering the provision of quality education in West Africa?

In West Africa just like in most of sub-Saharan Africa, inadequate funding and a lack of resources represent the most significant challenge undermining the provision of quality education. In my view, the argument that corruption, organizational incapability, and ingrained biased social customs limit access to quality education and equality in education in West Africa may be valid and rightly so, but there is a more complex reality which complicates this viewpoint. It is the inadequacy and unfavorableness of the global development policy and macroeconomic policy environments, sometimes referred to as the “Faustian bargain” which do not favor, especially, sub-Saharan Africa and by extension West Africa.

The regional, national, and local economies of West Africa intersect and interact disadvantageously with the global economy. Consequently, productive capacities and employment opportunities are not created, neither is inclusive and pro-poor growth nurtured in these economies. Moreover, unproductive foreign aid effectiveness framework, enormous inconsistency between goals and practices, and power gaps in donor-recipient relations similarly contribute to this deficit. The result is a lack of resources to fund teaching and learning materials, efficient school supervision structures, monitoring and evaluation systems, among others. The result is poor educational outcomes in West/Africa. Thus,

the education problem is two-fold: access and learning crisis, on the one hand; and sub-Saharan Africa’s economically weak and subordinate positioning within the process of global partnership for educational development, on the other. These two problems are not mutually exclusive.

As the largest region on the continent, West Africa is one of the worst-performing regions in education globally, and is essentially stagnating in its progress towards the Sustainable Development Goals (SDGs) including SDG4 (quality education). The region, which covers 15 countries, is home to the most densely populated nation and largest economy on the continent, Nigeria. However, most West African countries are among those with the worse adult literacy rates in the world, and Nigeria fares no better. They include the 5 countries with the world’s lowest literacy rates, below 35 percent. These same countries have the lowest female literacy rates, below 25 percent in comparison with the sub-Saharan African average of 50 percent. The lowest youth literacy rates in 2011 were in countries in West Africa. For instance, in Guinea (31%), Niger (37%), Burkina Faso (39%), Benin (42%), Mali (47%), and Liberia (49%), under half of the population between 15 and 24 years were literate. While Cape Verde and Ghana may seem the best performers overall, ranking 5th and 9th respectively in the 2019 Africa SDG Index and Dashboards Report, all the countries in the region including these two remain off-track as far as the attainment of SDG4 is concerned. According to the report, education in 80 percent of the countries shows the worst trend. These national education systems face huge challenges

with stagnation as the ultimate trend. Burkina Faso, Guinea, Liberia, Mali, Niger, Sierra Leone represent the worst performers in terms of education and gender equality.

There is a learning crisis in many countries in West Africa. Millions of children still lack the basic numeracy and literacy skills after years of schooling. For instance, in Ghana, nearly all pupils completing Grade 2 who were assessed could not read a single known word like “the” or “cat.” This learning deficit implies that even pupils who complete primary level education lack the fundamental competencies. Additionally, in 2014, fewer than 45 percent of Grade 6 pupils in West Africa attained the expected level of competence that would enable them to progress to the next level in literacy and numeracy. For instance, those unable to attain the expected levels could not solve a math problem that tasked them to divide 130 by 26. Many West African countries are far below the literacy and numeracy levels they seek. Also, from 2010 to 2015, completion rates were 83 percent for primary, 69 percent for lower secondary and 45 percent for upper secondary education. About 387 million children of primary school age, or 56 percent, did not reach the minimum proficiency level in reading, and less than one in five countries ensured 12 years of free and compulsory education. In Mali, for example, only 7 percent of primary school pupils passed a minimum proficiency threshold on a learning assessment, by income group and region while it was nearly 99 percent in high-income countries. The higher levels of education did not fare any better.

While illiteracy rates have dropped in other regions, it has remained stagnant in West Africa. Literacy rates may be near universal in other parts of the world, however, in sub-Saharan Africa, they are estimated around 65 percent. In many low income countries like those in West Africa, female literacy rate still lags behind by some 16 percentage points, that of the men at 53 percent and 68 percent respectively. Over the years, youth literacy globally has been increasing rapidly resulting in total decline in illiterate youth between the ages of 15 and 24, and adults under the age of 65, but sadly, in West Africa it has been stagnant.

Moreover, the proportion of illiterate adults, 65 years old and above, are increasing in the region.

There are urgent calls to address the problem of stagnation. Enhanced domestic mobilization and outside assistance have been recommended as solutions for African countries to enable them to attain this bold development goal in education. Indeed, while the failure of governments to grasp what it entails to attain the SDG4 has been pointed out, the most serious problem limiting the implementation and monitoring of the SDG4 is a lack of funding and resources. Doubtlessly, the challenge of achieving this goal is exceptionally enormous for West African nations, where the school-age population is rising more rapidly than elsewhere in the world. Currently, the region’s proportion in the global out-of-school population of primary school age swelled from 41 percent in 2000 to 54 percent in 2017. Population in Africa is very young and represents another critical issue.

In 2017, children under the age of 15 constituted 41 percent of the population, and the youth between the ages of 15 and 24 years made-up an extra 19 percent. Most countries on this vast continent boast of between 60 to 70 per cent of their population as youthful - under the age of 30 years and lower. Also, the segment of the population aged 25-59 is anticipated to grow from 35 percent in 2017 to 45 percent in 2090. This remains a tremendous present and future resource, but if left unmanaged and untapped this remarkable human capital could end up being a curse instead of a dividend for the region. Besides, more than half of the expected increase in population from now till 2050 is anticipated to occur in the region where of the 2.2 billion people that may increase world population, 1.3 billion will be integrated. The region will be the chief contributor to world population growth after 2050.

How is economic development affecting educational systems on the African continent? Do you think both factors work in tandem?

Of course, economic development has implications for educational

systems. They are not mutually exclusive and therefore work in tandem. As a result, economic or income inequality within and between countries underscores the learning deficit and poor education outcomes on the continent, in particular, sub-Saharan Africa while devastating the possibilities particularly for the disadvantaged youth, who ironically need even more of the advantages of good quality education to escape the poverty trap. Entrenched within the education and development landscape is the global economic/foreign aid structure, including the international financial institutions (IFIs) like the Bretton Woods Institutions (BWIs), bilateral/multilateral donors and others. These IFIs appear as the drivers and designers of continental/regional/national/local economic and education policies in Africa. Under their watch, the SDGs including SDG4, SDG5 (gender equality) and SDG17 (global partnerships) are all being implemented within a policy context that unfortunately, promotes a historical shift from job creation and capital generation to a neoliberal economic agenda of repudiating the generation of productive capacities. This does not boost West African economic growth hence the lack of funds and resources and the ensuing dismal education outcomes.

Thus, the West African regional and national economies are unfairly positioned within the world economy because the global partnership for development and its agreed international framework repudiates growth in sub-Saharan African economies and by extension West Africa's regional and national economies. This is obvious through the type of macroeconomic policy frameworks these nations must adopt in order to participate in the global partnership for sustainable development (SDG17). The partnerships that are formed for the achievement of the SDGs including SDG4 and SDG5 are fundamentally flawed. They are ridden with power differentials that do not promote the independent thinking and relevant economic priorities and choices by West African nations. As stated earlier, the "Faustian bargain", caused a situation in which international commitment to promoting economic development and reducing global income inequality disappeared. This culminates in national and international policies that focus on promoting global integration rather than the creation of productive capacities and jobs.

It is therefore now necessary to form a new consensus around global sustainable development and a new policy narrative rooted in the generation of productive capacities and on reconstructing the terms of global partnership for sustainable development.

Over the years, Africa may have experienced steady economic growth, but it has been slower than those of China and India. In 2018, West Africa came third on the continent with a GDP growth of 3.3 percent. Projections indicate that Africa's overall economy will increase to 4 percent in 2019 and 4.1 percent in 2020. Although higher than those of other emerging and developing regions, it is not enough to tackle the structural difficulties of constant current and fiscal deficits and debt susceptibility. This poses a dual challenge to improving the present growth direction and redoubling the growth efficiency for job creation. Macroeconomic stabilization and employment outcomes improve when industrialization drives growth, thus rapidly engendering employment.

Unfortunately, African economies are industry-light. Despite ongoing structural transformation through increase in services, the sector is fundamentally plagued by informality, low productivity and difficulty in generating quality jobs. Africa must industrialize and add value to its enormous agricultural, mineral, and other natural resources to escape the informality snare and unending joblessness. Possibly, a major step taken by African governments in 2018 was their shared readiness to advance Africa's economic integration proving that an Africa without borders is not just a political ideal. It would form the basis for a spirited continental market that would speed up growth and enable a more competitive African participation in world trade and value chains. It would also intensify the growth of industries across national borders, engendering economies of scale for investors as they assess broader integrated markets. The Continental Free Trade Agreement promises huge benefits for all African countries and by extension their educational systems. In the mean time, however, for SDG4 and SDG5 to be attained in West Africa, SDG17 would have to be transformed into a process that addresses differential power dynamics in the global partnership for development,

while fostering employment and skills generation in national economies. In the absence of this needed change, West African countries would have to forget about quality education and all forms of equality in education including gender equality.

What West-African countries have implemented the most successful education policies? What measures made them effective?

I am not certain if any West African countries have implemented the most successful education policies. However, Cape Verde has been reported to have done relatively well in West Africa, and is ranked among the top 100 in the world, and top 10 countries with the best national education systems in Africa. It occupies the 98th position on global education index, ranks number 8 in Africa with a score of 53.3, 53rd on critical thinking in teaching and 71st on ease of finding skilled employees globally. With a population of 546,000, its literacy rate is estimated at 80 percent and rising. The country has seen significant improvement and a positive trend in the reduction of the illiteracy rate of nearly 60 percent in 1975 to 17.2 percent in 2010 and its near elimination for the youth aged between 15–24 years. There has also been an increase in secondary and higher education population, with about 38 percent currently having had 12 years of education or more; and a steady decrease in gender and urban/rural disparities.

Increase in vocational education investment yielded over 20,000 students trained within a decade. The designing of legal instruments for regulating vocational training in order to meet demand with good quality standards is worth acknowledging. Significant investments were made in higher education too, and a separate ministry devoted to its development generated a gross enrolment ratio of nearly 20 percent. Investments were also made in teacher education and a pedagogical institute was established and constantly upgraded according to the changing societal and technological needs. Teachers have been trained and retrained with suitable pedagogical competences in line with the different levels of education. Currently, the institute has been upgraded to the level of a

university and the new reforms demand that all teachers obtain a higher education degree to be ready to compete in the global market.

Investments in non formal education delivered through literacy and adult education activities have also contributed to reducing the illiteracy rate in Cape Verde from 61.3 per cent in 1975 to 12.5 per cent in 2010. Connections with the world of work are ensured by offering basic vocational education to many young people. While this initiative has been substantial, there persists high female illiteracy rate affecting about 23 percent against 12.4 percent of men.

The government established fixed and mobile libraries for the education of children, youngsters and adults, encouraging public reading in communities. This improved literacy dramatically. Attaining nearly a universal basic education led to increased enrolment in secondary education, which the sector contained successfully. In 1992, there were only nine public secondary schools but 20 decades later there were 72 more with increased numbers of better trained and qualified teachers. Additionally, the integration of a subsystem of a school social initiative into the educational system provided support in the form of school meals, teaching and learning resources, school uniforms, transportation, student accommodation, health grants, tuition, and scholarships. This subsystem fostered equality in student access and success at all levels of education irrespective of students' socio-economic background.

It is important to reiterate that Cape Verde has been able to make these significant investments in its educational system due to a positive macro-economic environment in recent years, reaching nearly 20 percent of its annual budget. In spite of the global economic meltdown, the share of public expenditure on education remained close to 6 percent and in 2012 at 6.4 percent of GDP, which indicates the importance government gives to the education sector. Expenditure on early childhood education is however slight for the country's needs. Despite this, Cape Verde has made substantial investments into its educational system and has earned some impressive gains. It is thus clear that poor educational outcomes

of African national education systems cannot be improved without significant funds and resources. They underscore the relative success of Cape Verde's educational system.

Nevertheless, the end of 2017 witnessed the gross government debt-to-GDP climbed to 53 percent in Africa but with large variations across nations. Sixteen of the 52 countries with data, including Burkina Faso and Mali own a debt-to-GDP ratio under 40 percent, but 6 countries, one of which is Cape Verde, the only West African country ranked among the top 100 countries in the world and top 10 countries with the best national education systems in Africa, recorded a debt-to-GDP ratio beyond 100 percent. Excess debt is emerging as a major risk for fragile emerging economies like Cape Verde. While literacy rate of both male and female 15 to 24 year olds is increasing and on track, net primary enrolment rate is falling and the trend to attain SDG4 is stagnating. Might debt distress be a reason for the decreasing rate in net primary enrolment in 2017, a trend suggesting Cape Verde is heading in the wrong direction - albeit still a country that records higher GDP and per capita rates than other West African countries?

In your opinion, do you think the international community should play a role in boosting education in Africa? If so, what role should the international community play in this regard?

I believe the international community should definitely play a role, but, essentially, it must be a supporting role in a constructive manner. The IFIs, BWIs, multilateral and bilateral donors, international NGOs, charitable foundations, and other similar entities should cease being the architects and drivers of education and economic policies in Africa. Rather they ought to surrender the space for continental, regional, and national governments to occupy and provide the needed leadership for the African people who better understand or have the ability to appreciate their education systems. This is by virtue of their indigenous and historical practical experiences to deeply delineate the problems that afflict Africa's national education systems, and design suitable solutions.

At the moment, the World Bank with its associates is employing the education indicators of its Human Capital Index (HCI) to generate a detailed fresh database of international student achievement test scores encompassing 160 national economies to standardise children's learning. The World Bank's aim to evaluate "performance" or "quality" is not totally irrelevant, but seems yet another prescribed structure, to be forced by IFIs and the Global North upon developing countries. It also seems an

The international community must help address the power inequalities that pervade what I refer to as the 'Confluence', a space where African national governments and development partners meet...

excuse for the international development partners not to focus on inputs but outcomes, thus not concerned with equipping these developing countries' national education systems with the requisite teaching and learning resources. Current global policies underscored by the SDGs framework and international organisations are fixed on outcomes and not inputs, and are failing to initiate actions and choices to engender the needed economic growth and prospects for West/African countries.

Indeed, the globalization of expectations without the globalization of opportunity, which produces global inequality abounds. An example of this in regards to sub-Saharan Africa is illustrated by the World Bank's paradoxical recommendation to ministries of education like those in West Africa to regard investment in education a priority while simultaneously constraining education budgets of these countries to ensure zero-deficit budgets to guarantee sufficient resources for servicing World Bank debts and other global commitments. The neo-colonial, neoliberal and hegemonic character of the global development partnership for sustainable development represents a challenge. It undermines the creation of democratic education policy spaces, processes and resources to harness the potential of Africa's youthful populations in order to avoid the danger caused by untapped potential of the youth.

The international community must help address the power inequalities that pervade what I refer to as the “Confluence,” a space where African national governments and development partners meet, because they undermine the achievement of the development goals one of which is SDG4. For example, the Global Partnership on Education (GPE), which operates in partnership with developing nations predominantly in Africa, in their report, confessed that less than a third of their performance awards were adequately aligned to countries’ systems. Thus, only 39 percent of GPE grants utilized mutual financing or joint award mechanisms. The report admits that it is critical to improve this alignment as it is fundamental to reinforcing national capacity and supports prospective endurance of GPE initiatives. Nevertheless, the question is: do GPE initiatives reflect the priorities of African national education systems or rather frame them? Has the GPE relinquished the leadership position or the “driving seat” to the African countries with whom they work? Over the years, the World Bank has spread capitalist neoliberal neo-colonial macroeconomic and education reform agenda manifested as structural adjustment programmes (SAPs), economic recovery programmes (ERPs), poverty reduction strategy papers (PRSPs) in conjunction with the Education for All (EFA), Millennium Development Goals (MDGs) and SDGs in West/African countries. All of these constitute liberalization policies that undermine not only the national/regional economies of Africa but also the education sectors.

It is high time African governments took charge of this policy and funding space at the Confluence. Within the African governments/stakeholders and international community partnerships, often occurring under the overarching global partnership for sustainable development (SDG17), significant provisions must be made not to crowd out but to support Africa’s attempts to formulate its own education philosophies, theories and practices, and seek its own advancement. Africa’s own education strategies such as: the African Union Commission (AUC) Agenda 2063’s ten-year Continental Education Strategy for Africa 2016-2025 (CESA 16-25); the Common Africa Position (CAP) on the Post-2015 Development Agenda; as well as the education strategies of regional economic

communities (RECs), for example, that of the Economic Community of West African States (ECOWAS) are important. The CESA 16-25 re-echoes this in its strategy document:

The lessons learned from both the African Union-led developmental efforts and those supported by the international community clearly indicate that educational development is first and foremost a national and regional responsibility. And that meaningful educational development cannot be achieved outside of a clearly defined vision and strategic framework, owned and articulated around the socioeconomic and cultural aspirations of the people. Clearly, educational programs designed and financed from the outside unavoidably lack coherence and their impact remains limited (AUC, 2016, p.10).

However, I’d argue and emphasize that “Africa’s efforts to hear its own education theories and see its education practices, among others, and to seek its own way forward” will only happen if Africans themselves realize and decide that they are fully responsible for the funding of their education sectors, and consequently, ensure that it happens. Although SDG10 (Reduced inequalities) is perceived as poorly defined, its identity as a separate global goal to reduce inequality is important. Crucial is its approved details, which suggest a shared anxiety over inter-group horizontal inequalities; inequality of opportunity internationally; labor share and functional distribution of income; as well as the responsibility of global regimes especially for finance, trade and voice in international organizations, in fostering or reducing inequality.

Accordingly, the international community, while magnifying Africa’s voice, must help plug the Africa’s economic holes such as capital flight, unfair trade policies among others. Between 1970 and 2008, Africa was a net exporter of capital globally. Total capital flight in this period was \$735 billion compared to an external debt of only \$117 billion. Findings from an UNCTAD study indicated that between 1970 and 2002, Africa was US\$540 billion in debt and paid back US\$550 billion but still had a debt of US\$295 billion. Annually, Africa records \$50 billion illicit financial outflows.

Other studies also show that for every new dollar borrowed by African nations externally, as much as 60 cents leave Africa as capital flight in the same year. Capital flight, tax avoidance, and evasion by multinational businesses have adverse outcome on African countries by deepening deprivation, economic disparities, corruption, and unfair competition. Furthermore, an enormous portion of foreign aid to Africa immediately goes back to the donor/western countries, for example, by means of foreign consultant fees. According to 1995 estimates, 100,000 foreign consultants were in Africa at a cost of \$4 billion. In 2005 the World Bank admitted that \$20 billion of the \$50 billion foreign aid purse were spent on consultants.

The international community assisting Africa in stemming the serious problem of capital flight from the continent, and encouraging fair trade policies will ensure that Africa gets its fair share from the global economy which currently is non-existent. This will help turbo-charge its regional and national economies towards productive capacities and quality jobs. Subsequently, it'll ensure that national education systems are generously invested in to achieve good quality education and good education outcomes to feed into the economies.

Do you think political will on the part of African governments and practical policies can stem the rising incidence of brain drain on the African continent ? What are some measures that can halt this phenomenon?

I think efforts to halt brain drain in Africa without addressing the continent's economic challenges will be an exercise into futility. Brain drain occurs when people or experts with the capabilities seek greener pastures and richer economies to improve their standard of living. The truth is that sub-Saharan African, especially, West African economies remain poor and perpetually positioned disadvantageously in the global economy. Until this positioning improves and yields economic benefits to Africans fairly, brain drain cannot be halted. Also, I'd argue that if there's a deep grasp of the Confluence (where African governments/

stakeholders meet development partners/international community) by African governments and a strong political will to assume leadership and engage the international community at the Confluence while bargaining and operating strategically within the global economy in ways that boost African economies, the phenomenon can even halt itself in African countries.

However, if the economic state of affairs does not change for the better, I believe that Africa can only manage this brain drain through innovative "thinking outside the box" policies, for example, by leveraging its teeming youthful populations and heavily investing in their development and their manpower capabilities. These experts, trained in the various fields to global standards could then be hired out to countries that are in need of them for financial/economic returns for the benefit of African economies. For instance, African governments can negotiate agreements at the Confluence with the richer economies to boost the training of huge numbers of the youth, for example, as nurses, doctors, social workers and other relevant skills and hire them to these countries. Otherwise, brain drain cannot be halted if African economies do not fundamentally improve. The fact that brain drain is occurring and has occurred over the years at an informal level paves the way for African national, regional and continental governments to officially endorse, manage, regulate and benefit from it. The youth bulge of Africa's rising population makes this even more urgent!

Since Africa's population is youthful, its working-age population is estimated to grow from 705 million in 2018 to nearly 1.0 billion by 2030. As millions of young people join the job market, the burden to create quality employment will increase. At the present speed of labor force escalation, Africa must generate approximately 12 million fresh jobs annually to avoid increased joblessness. Robust and persistent economic growth is imperative for creating jobs, but that alone is inadequate. The basis and character of growth also count.

Africa has enjoyed prolonged economic growth in the last twenty years,

but growth failed to create jobs. For instance, a 1 percent growth in GDP lasting from 2000 to 2014 was linked to just 0.41 percent increase in job creation, which implied that jobs were growing at a rate of less than 1.8 percent annually, or under the almost 3 percent rise in manpower yearly. If this trend persists, Africa will record 100 million unemployed by 2030. In the absence of real structural transformation of Africa's economy, most of the employment created will end up in the informal sector, riddled with low productivity, low pay and job insecurity undermining the goal to eradicate extreme poverty by 2030, and brain drain durably persisting.

Given the opportunity, how would you improve the quality of education within the African continent?

Recommendations to improve the quality of education in Africa have huge resource implications and the way to achieve them is to look beyond foreign aid, which for over fifty years has failed to yield the desired development outcomes. Foreign aid represents a very restrictive mechanism for the attainment of any development goals including education goals in West/Africa. Moreover, the benefits of the aid effectiveness principles have not been deployed comprehensively at the Confluence. They durably remain at the level of rhetoric, rendering the Confluence less democratic and less beneficial to Africa and its educational systems.

To enhance the quality of education in West/Africa and address the problem of stagnation, enhanced domestic mobilisation and outside assistance as recommended are pivotal. I see these two proposed solution as working in tandem. To enable an effective mobilization of funds and resources, there's the need for a revised external assistance by the international community through, for example: helping to stem illicit financial flows; ensuring a less consultant-driven aid budget; supporting fairer trade and economic policies for Africa. Equally, African governments and stakeholders must carve a united front continentally, regionally and nationally to enable them lobby the international community and bargain astutely to achieve the above, and shape fairer,

independent and African-friendly macroeconomic policies that are relevant to West/Africa. These are crucial to a successful mobilization of resources domestically. This success will help address some of the resource and funding deficit of national economies and the education sectors to pave way for real investments to be made into critical areas to guarantee quality education and gender equality.

West/African governments need to invest generously in good quality public education at every level and not private education, which currently pervades the continent so as to reap the demographic dividend of Africa's youth bulge and address the growing educational inequalities, a recipe for tensions among citizens.

Investing ambitiously in excellent quality teacher training and making teaching an attractive career option is essential.

Developing and implementing "thinking outside the box" policies, for example, analyzing the activities of the so-called school dropouts in the informal economy and determining how they are surviving and building relevant knowledges with and for them will ensure no human resource is wasted.

Investing in building highly skilled manpower global standards with technologically savvy characteristics is an option. The returns on this policy would be ploughed back into national education systems while ensuring that the internal challenges plaguing the public systems of education are tackled, thus, simultaneously dealing with the external pressures as well as the internal challenges.

In an attempt to stem the tide of dismal education outcomes, Africa can't afford to continue with a "business as usual" attitude. It'll have to address the weak positioning of its economy within the global economy and partnership for sustainable development by, fundamentally, changing how its national and regional economies are run. Africa's leadership role in all this and the secondary role of the international community as outlined

above are crucial to the success of Africa's comprehensive funding and resource mobilization drive.

Finally, let's be honest, most national governments and decision-makers, who set educational priorities, make educational choices, as well as formulate and implement educational policies in Africa, do not send their children to the public schools that they help create but often to private schools that charge exorbitant fees. So, the question is, how committed are these educational drivers and agents of change to ensure that a good quality public education is delivered. The importance of a good quality public education to address inequalities and create top quality human resource to boost Africa's economy can't be overestimated...



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Edtech: The Future of Education?

Lotis Bautista

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Education technology (edtech) refers to the practice of using technology to support teaching and the day-to-day management of education institutions (DfE, 2019, p5). Edtech products include hardware, digital resources, software and services that can be applied to one or both of the above (DfE, 2019, p5). In the last 5 years, edtech has seen a huge global increase in investment and interest from governments, traditional institutions and students alike, with Britain currently leading the future of edtech in Europe.

Why now?

Up until 2014, the majority of 'edtech' facilitated the transfer of the existing curriculum to online or other methods of distribution. Since then, €1.6 billion worth of investment has been poured into the European Education Technology sector (and billions more worldwide), with 40% of this funding going into Britain (UKtechnews, 2018). As a result, in 2017 there were already over 1200 edtech companies operating in the U.K. alone (edtechnology.co.uk, 2017), providing new goods and services to all levels of education, in all types of functions, making it the largest Edtech market in Europe (DfE, 2019, p.10)

Prior to this, interest and subsequent investment in edtech companies was considerably lower, largely due to the mostly unchanged ways of working in the industry and the insurmountably long sales cycles. Anecdotal evidence from companies who report publicly on these sales cycles indicate that at K-12 level (Primary to Sixth Form), the minimum sales cycle is 9 months (blog.alore.io) and at university level, this can be up to 2 years.

Whilst sales cycles do not appear to have changed, the increase in appetite can be attributed to a number of factors. Firstly, the increasing use and penetration of the internet has enabled multiple e-learning providers to access huge numbers of global learners, forcing traditional institutions to adapt their own business models to compete. Whilst these companies, such as Coursera and Udacity are mostly found in the U.S., the trend is moving towards the U.K. where nearly 9 million students accessed the U.K. government's own FutureLearn Moocs (Massive Open Online Courses) website in 2019 (ICEF, 2019).

The rising skills gap

In the age of the Fourth Industrial Revolution (WEF, 2016) where digitization, automation and advances in artificial intelligence (McKinsey & Co, 2018) are earmarking the next era of work, the traditional perception of 'education' is widening and moving into the realms of skills gained through lifelong learning and employer-lead retraining. This is driven by estimations showing that at least 10% of occupations in the U.K. alone will be fully automatable in the next 20 years at the current rate of technological change (OECD, 2016 cited in DfE, 2019, p.13). A report by the Centre for Cities equates this to 1 in 5 jobs displaced in the U.K., with the majority lost in the North and the Midlands (2018). This "epochal transition" (McKinsey & Co, 2018) has made both governments and companies pay attention, as the cost of not retraining or reeducating these workers is estimated to already cost £4.4 bn each year (OU, 2019) with the most significant gaps found in management, digital, and leadership skills. Edtech is already being considered a method for helping to close this gap, particularly in more vocational areas, with organisations such as the Ufl Charitable Trust committing £50 million worth of

grants between 2015-2020 to edtech companies (Ufl, 2015, p.4-5), or particularly innovative institutions, developing technology solutions to train vocational occupations. Similarly, Jisc, the U.K.'s biggest technology network and Emerge Education, a key edtech investor have partnered with a view to funding and supporting the next generation of edtech entrepreneurs, often found at universities across the country, who are beginning to address the skills gap challenge.

Skills for the future

In 2017, The Institute for the Future estimated that 85% of the jobs that today's learners will be doing in 2030 haven't been invented yet (p.16). Coupled with this, McKinsey & Co estimates that up to 10 million people, or 30% of the U.K. workforce, will need to transition between skills or careers within the same period (2019) leaving the era of the secure job in the past. As a result, educational institutions and the companies that hire them must begin to focus on the teaching and development of transferable or "soft skills" that will enable this frequent shift throughout lifetimes. In 2016, the World Economic Forum outlined 10 key required skills for the future workforce of 2020. These include creativity, emotional intelligence, coordinating with others (WEF, 2016)- few of which can be "taught" in the traditional academic setting as it stands today. Britain's Government Office for Science additionally reports that labor market entrants are already considered inadequately prepared for work (2019, p.7). As a result, new methods of training will need to be utilized, including the full-scale support and deployment of edtech that supports lifelong learning before work begins and as work continues.

Government support

In April 2019, the U.K. government announced its EdTech strategy and a £10 million boost for the industry, aimed at making the U.K. a world leader in this field. Its strategy highlights 5 key opportunities in the following areas (DfE, 2019, p.32):

1. Administration processes – reducing the burden of 'non-teaching' tasks.

2. Assessment processes – making assessment more effective and efficient.
3. Teaching practices – supporting access, inclusion, and improved educational outcomes for all.
4. Continuing professional development – supporting teachers, lecturers and education leaders so they can develop more flexibly.
5. Learning throughout life – supporting decisions about work or further study and helping those who are not in the formal education system gain the skills they need now and in the future.

Whilst the strategy and funding are a welcome boost and demonstrate a forward-thinking approach to technology's place in education, it pales in comparison to US \$1 billion invested by the Chinese government in 2015 alone (Technode, 2017). The British strategy also has a deep focus on K-12 solutions and opportunities, with Higher Education and Further Education feeling like less of a focus. This suggests that whilst edtech is considered to be an important education-wide input, the British government is seeking to address issues within the educational system that are found lower down.

The rise of the consumer

These foci are however in contrast to the investment trends reported by Brighteye Ventures in 2019 which showed that 78% of Edtech investments between 2014-2019 were in consumer and corporate-facing companies, with companies working with Schools or Higher Education securing only 10-12% investment in the same period. This is likely attributed to the difficulty linked with selling to schools and colleges, where 500 schools in the U.K. were still unable to connect to a reliable internet connection (DfE, 2019, p.12.) Low and ever-diminishing school budgets add to this problem for the edtech entrepreneur, with many solutions considered prohibitively expensive. Therefore, without the key infrastructural ingredient of regular internet to try and reduce these costs and the need for hardware or unnecessary set-up, K-12 focused

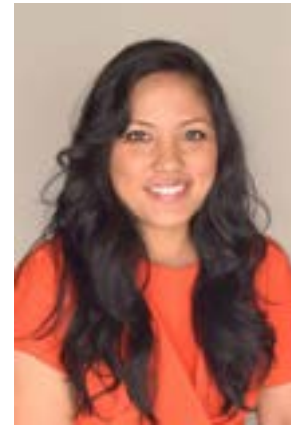
edtech companies in Britain are likely to follow the trend of focussing on individual consumers to boost sales.

The future of education?

The investment and change in attitude towards technology by governments and institutions alike demonstrate that edtech will play a significant part in the future of education. What this future looks like however is still unclear; despite the recent growth and financial boost in edtech, the industry is still in its infancy (QS , 2017, p.3).

With this in mind, some studies suggest that edtech has the potential to exacerbate pre-existing disparities, continuing to favor those with the pre-existing intellectual and financial abilities to fully utilize edtech (Devex, 2019) . Other studies show that when used properly and embedded into an institution, it improves teaching and student outcomes in particular areas at relatively low cost (JPAL, 2019) . Furthermore, with wider systemic and structural support, edtech has the potential to democratize the wider employment system by providing access to training and opportunities for those that have been previously left out and address any arising regional disparities. In particular, it has the potential to support and retrain the millions that will be displaced by automation and artificial intelligence.

Overall, we can conclude that If Britain wants to remain at the forefront of edtech in Europe and become a global player, the adoption of edtech products will be more important and necessary to keep it apace with its international competitors.



Lotis Bautista is one of the Co-founders of VOLO Group, an education technology company established in 2016 that aims to help people build careers they love through volunteering. She currently manages client relationships, training and operations, regularly liaising with university partners and students. VOLO currently supports over 13,000 students across the UK to find skilled volunteering roles and record their reflections and learning as they go, in order to have a clearer picture about their future careers.

Lotis started her own career in education as a participant on England's Teach First graduate programme and taught English and Politics in West London for 3 years, becoming Assistant Head of Sixth Form in her second year. Lotis has since worked in Educational Leadership and Initial Teacher Training and continues to teach through her role as Access Coordinator at City Lit, one of London's biggest Adult Education providers. Here she supports adult learners to gain the qualifications required for university through an intensive one-year evening Access course, as well as sitting on the Board of Governors for a Primary School in North West London.

A Priceless Education from Education

Traci Seltzer

United States

How is education defined? In the Western world, education's connotative definition involves structured learning in a classroom by a structured and tiered learning plan that spans 13 years from typically 5 years to 18 years. It is often referred to as formal education. In these 13 years, students' learning and knowledge bases grow accumulatively especially in the STEM (Science, Technology, Engineering and Math) topics; addition and subtraction to Algebra III, physics and beyond. Today, the STEM topics are the focus of most industrialized countries. Understandably, parents want their children to excel in STEM so their adult children will one day gain very lucrative employment, and thereby, have more than their parents did. National governments may endorse STEM education so that eventually their own citizens can develop certain sectors for which they will no longer have to rely on imports or trade outside their borders.

We also use STEM when rating or evaluating students' performance across cultural and/or international boundaries. STEM topics are hard sciences without much subjective interpretation. Statistics is a member of the hard sciences, but, of course, it can be juggled to paint a wide variety of pictures depending on the painting's artist and/or its commission's benefactor.

Are there other definitions, connotative or denotative, of education? In the Western world, Gardner's list of specific educations is generally accepted in the realm of education. His original list comprises visual-spatial, logical-mathematical, interpersonal, intrapersonal, existential, musical-rhythmic

and harmonic, verbal-linguistic, naturalistic, and bodily-kinesthetic topics (Schunk, 2012). Some may argue that topics such as emotional intelligence, primal abilities (how to grow and find food without modern conveniences and technology; for example, as after a Krakatau-like event), and common sense (as determined by each specific culture and generation) should also be included.

In today's modern world, "there's an app for that." While there are not apps to teach emotional intelligence, self-control, self-evaluation, interpersonal skills and intrapersonal skills, with the last two including coping skills, conflict resolution skills, effective communication skills, contextualism (of self and of others), integrity, morality, altruism and use of the truth, there are instructional videos available. These videos should be watched with the understanding that there may or may not be cultural differences present in the content. This is probably the single largest reason why STEM is measured around the globe but the soft sciences are not. Each culture has its own societal norms and mores; there is not always right and wrong but there is always different, and often (vying) ethnocentricities, unfortunately. It is difficult to develop one universal matrix to grade all behaviors in any and all circumstances because people are people and cultures are unique.

Mass education will provide a viable future workforce to ensure sustainability of future generations, especially by providing a food supply. Education needs to prepare students to be employees today or tomorrow and to become viable and effective parents of the next generation.

With so much emphasis placed on STEM curricula in the public school systems of industrialized countries, who should be responsible for teaching the younger generations about the non-STEM skills [?]

The latter requirement is arguably the most difficult and most often a failed one. An optimal education comes from both formal education and the school of *hard-knocks*. This combination is the ultimate blend of crystallized intelligence/knowledge, procedural knowledge, descriptive knowledge, tacit knowledge, and fluid logic or reasoning.

With so much emphasis placed on STEM curricula in the public school systems of industrialized countries, who should be responsible for teaching the younger generations about the non-STEM skills: emotional intelligence, self-control, self-evaluation, interpersonal skills and intrapersonal skills, especially coping skills, conflict resolution skills, effective communication, contextualism, integrity, morality, and the use of truth; the applied non-STEM skills? Perhaps most people would agree that the use of the truth is a dying art in our age of technology. Lying (and the use of disinformation) is now a normal, acceptable activity for many adults for various reasons, especially those of personal gain and manipulation. Children learn from what they see and hear, so should we be surprised at how much the younger generations are unable and unwilling to engage in the truth, regardless of whether about themselves or about situations or occurrences? In the U.S., those who expose lies and corruption (whistleblowers) are ultimately punished in one way or the other. Since we learn from what we see and hear, even as adults, having integrity and morality are “bad for our individual health and future.” Behaviorism is highly effective in this replayed scenario.

Many believe that parents or family should teach these applied non-STEM skills. However, now there are several parental generations starting with Gen X who never learned these skills when they were children. So now as adults and parents, they cannot teach such skills;

the same is true for teachers. Most teachers come from generations that were not taught the applied non-STEM topics by their parents, thus teachers (and members of law enforcement and the judicial system) do not have these skills either. This can be quite a disaster when the teacher has 30 unruly children in his/her classroom. As a side note, in the United States, it is very possible that if a teacher corrects a student’s lack of integrity or behavior infraction, the school administration and/or the student’s parents will punish the teacher because the teacher infringed on the student’s rights of freedom. U.S. teachers now carry professional insurance just as doctors do.

In this light, at what point do the rights of freedom become null and void for the goodness of a society? From my personal experience as a teacher in the realm of corrections (e.g., prison and jail; no, they are not the same thing), the lack of non-STEM skills and learning should start at the very basic level; the family. The realm of corrections is very, very far from optimal non-STEM skills and should not be the mode of teaching and learning to those who are incarcerated. If each family teaches non-STEM topics, the culture and society should, by ripple effect, also become experienced in applied non-STEM topics. Teachers, culture and society will further reinforce such applied non-STEM behaviors. This is especially important because many babies spend their waking hours in daycare centers while their parent(s) are at work trying to make enough money to live and/or to “keep up with the Jones.” The free market system motivates parents to work, thus their children are raised by daycare personnel, who may or may not have applied non-STEM skills. Then add the stress of being a single parent, children may only see negativity and unpleasant behaviors from adults. In the U.S., there is overcrowding in corrections departments for many reasons, especially from the lack of applied non-

STEM skills which contributes to America's plague of mass shootings.

Lessons Learned

I have over 17 years of teaching experience spanning 30 years or so (from the late 1980s to the present); amongst others, 3 years as a teacher in a men's maximum security prison; 1.5 years as a teacher of sorts (a criminal analyst) to and with a defense attorney, defendants, juries and prosecutors; and 6 years as an online instructor in English teaching industrial and organizational psychology, international political economics, investor psychology, international business, emotional intelligence, interviewing skills, and interpersonal skills (to adjust to co-workers and perhaps a new culture). Recently, I once again began teaching in corrections at the local jail but I also still teach online in English, mainly in the Russian culture. In corrections, I teach adult basic education; reading, writing and math. During this process, I quietly teach proper behavior boundaries so that everyone enrolled in class has an opportunity to learn and maybe leave the venue better than when they arrived. Mood, intrapersonal state and external conditions certainly affect a person's ability to learn whether in a classroom or at home (Schunk, 2012).

In addition to my teaching experience, which has taught me much more than my formal university education, I have learned a lot about education from the curricula of a bachelor's program in international relations obtained from a brick-and-mortar university (before online technology); and an MBA, a master's of science in psychology, and a master's of education in international education (all earned online). To my dismay, I was quite disappointed with the quality of curricula for the masters programs. I was further dismayed by the rigidity of the thesis processes. If there were no previous research about a chosen topic, then the topic could not be used because there could not be a literature review section. This certainly discourages any sort of creative thinking and problem-solving. My topics had to fit neatly inside the established box instead of encouraging me to think outside the box. This situation

is similar to the circular one of needing experience to get a job but one needs a first job to gain experience; an epitome of Catch-22.

The following are highlights from my teaching and academic learning experiences over the past 25 years. They are presented in a situation/lesson learned format which support my thoughts in this prose:

1) Situation: My boss at the prison yelled at me in front of the students in my classroom. After his departure, my students watched me to see if I practiced what I preached to them about not venting on others because such an action is unacceptable and unjustified. I always stressed the importance of peaceful conflict resolution skills, emotional intelligence and self-control.

Lesson Learned: Lead by example, stick to your word (integrity), and treat others as you'd like to be treated. Also people do mimic the behaviors of others and are quick to apply the label *hypocrite* when appropriate.

2) Situation: I had several adult STEM graduate/doctoral students who were Far East Asians and STEM professionals living in the U.S. as English learners. All of them mentioned that they had minimal or no contact with their neighbors and co-workers. Either they were not married or their spouse lived far away. They felt isolated and alone, that no one understood them, and that they didn't understand the U.S. culture. Many of them said they drank excessively to relieve the loneliness and isolation; counseling was not an option for them.

Lesson Learned: Despite the students' being educated in STEM and gaining lucrative employment in a STEM field, the lack of social capital still had profound effects in their personal lives which often affected their professional lives. Regardless of the current emphasis on STEM, when push comes to shove, the significance of the social sciences trumps that of STEM.

- 3) Situation: In my prison classroom, I posted my classroom rules and conflict resolution skills in a list on the wall. When someone violated any of them, they had to tell me which one(s) they violated, which meant they had to read all the items and understand each item to be able to choose the correct one(s). Then they had to tell me which conflict resolution skill(s) they should have used.

Lesson Learned: Learning occurs from practical experiences as well as from repetition. Many of my students read the lists many times daily or weekly, and often already knew which rule(s) they violated. Having to tell me which of the conflict resolution skill(s) they should have used was a form of self-evaluation and self-realization. Eventually, many of my students found that their lives were less unpleasant if they instilled my conflict resolution skills in their daily lives. My list of rules and conflict resolution skills were mainly the applied non-STEM skills that they should have already learned.

- 4) Situation: Over the years, I've had the opportunity to speak to professionals and business owners in several countries.

Lesson Learned: They all worry about the same thing - finding quality employees so their companies can continue as going-concerns. The owners feel that the current pool of employees from which to choose do not have communication skills and social skills, and will therefore hurt their companies' bottom lines, especially through attrition that results in the loss of employees with procedural knowledge, crystallized intelligence/knowledge and fluid intelligence/reasoning.

- 5) Situation: STEM has developed some very amazing and useful products, but....

Lesson Learned: ...without applied non-STEM skills, marketing and negotiating for contracts would be difficult.

Technology is made by STEM but non-STEM is needed to market and

sell it, and perhaps teach others how to use it. Perhaps the instructions for programming a VCR were written by a STEM professional.

- 6) Situation: Quite often, my non-native English speaking students do not understand American intonation, American sarcasm, American humor (i.e., sitcoms), and American expressions that are widely used and expressions used in specific situations (i.e., "I almost bought the farm," "She was green with envy," "I saw red," "You were three sheets to the wind," "It will cost you an arm and a leg").

Lesson Learned: Language and culture are intertwined. People cannot learn one without the other. Language affects mood and opinions, thus affecting our choices of products or behaviors. People may not remember the words said to them but one will always remember how someone or something made them feel inside.

- 7) Situation: When the formal education system fails and/or the family socialization system fails and/or the lack of non-STEM skills learning occur....

Lesson Learned: prison populations grow exponentially, especially from non-victimless crimes, and the chairs in the prison classrooms fill quickly. Children may become parentless, thus continuing the cycle.

- 8) Situation: One of my prison students came from quite an affluent family. His parents gave him everything: a car, a house and a formal education. He never did any work and never had a job because his parents provided everything. When he and his girlfriend were expecting a baby, his parents cut off his financial support. To ensure he could provide for his new family, he decided to try an illegal, lucrative endeavor. He didn't know how to do either, and was soon arrested and sent to prison.

Lesson Learned: Affluent or not, his parents were very much responsible for this young man's imprisonment. His parents never

taught him how to live and survive in this world. He never had to work. Basically, his parents threw him off the boat but they didn't teach him how to swim yet. This situation occurs in any socioeconomic level.

- 9) Situation: Many of my prison students did not know how to do higher math or to write an essay.

Lesson Learned: I always told them that one can survive on the street without knowing how to do the quadratic formula but one cannot survive without social skills and social capital. A feeling of love and belongingness is more powerful than scientific notation.

- 10) Situation: Trading blocs, embargoes, treaties, the SALT Talks, and the Nuclear Test Ban (NTB) Treaty.

Lesson Learned: Domestic and foreign policies are made by individual humans with a contextualism, histories, preferences, opinions, personality traits and moods. Despite raw, hard statistics, non-STEM characteristics shape our laws and policies. Agreements like the NTB Treaty occurred with leaders who were suspected to have the propensity to "push the button." Leaders with effective non-STEM skills are often asked to negotiate between leaders who do not have these non-STEM skills. Trading blocs occur when leaders think or feel that such a situation will be in their best interest or to thwart the agenda of another leader. As a side note, Hannibal never forgot about his promise to his father; contextualism enacted.

- 11) Situation: After all my interactions and professional experiences, I learned people skills as well as learning about and understanding myself.

Lesson Learned: Understanding the term and idea of *contextualism* helps us have pleasant, positive and successful social interactions. Understand other people's contextualisms as well as how our own contextualism influences our choices, volitions and behaviors. Without

self-control and metacognition as well, bad things can happen.

- 12) Situation: I asked one of my dear Russian friends, Lev Y, to proofread this prose because he likes to try to find my English usage errors; its good practice for him to hone his English skills. Also, now that he is a father to a small child, he is learning the importance of understanding applied non-STEM skills because parenting isn't nearly as easy to do as programming is. He is educated in STEM and has 15 years in a STEM occupation; a programmer.

Lesson Learned: The following is his typed response to my article – (sic) "I like that you did not belittle the need of STEM because I think there should be harmony and we as a society should teach our children human skills with the same diligence as STEM. Because we should UNDERSTAND (interpersonal, emotional intelligence, self-control, coping, conflict resolution skills and so on) each other to provide VALUE in any other including STEM. Because the basis of our civilization is cooperation, especially now" (Y, Lev, 2019).



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Where are our Public Intellectuals?

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Some argue that gone are the days of public intellectuals, who have retreated to the Ivory Tower. Their decline sourced in their isolation, specialization, and disconnection from a grand public audience beyond academia. We are, arguably, in an era where public intellectuals have switched their “...critical pen for the safety of tenure” (Mendieta, 2003, p. 14). Others have contested this notion by calling into question the lack of empirical evidence of the alleged decline (Etzioni, 2006, p. 18). Alternatively, this essay will interrogate the notion of decline by calling into question what counts as intellectual activity altogether. I argue that the notion of the public intellectual is largely exclusionary of the voices of racialized populations, such that, the image of the public intellectual and by extension intellectualism is overwhelmingly Eurocentric. The necessity of interrogating this topic is significant, as intellectualism and academic scholarship do not exist in a vacuum. Informed by socio-political, historic, and economic factors, scholarship informs society, and society can only be as equal and just as the knowledge it is based upon. Indeed, there is a power and privilege in deciding what knowledge is shared, and what knowledge is excluded.

Significantly, a Eurocentric conceptualization of the intellectual does not exist in a vacuum. This conceptualization is a manifestation of a long line of Eurocentric thought and regimes of knowledge that equate whiteness with rationality and all other forms of knowledge as inferior and the antithesis of rationalism. In fact, the very concept of the public intellectual is a product of the Enlightenment. The role and purpose of the public intellectual was to disseminate “the fruits of philosophy and science”

thereby “...enlighten the state of public opinion and replace a traditional [society with a rational one]” (Fraser & Taylor, 2016, p. 128). However, the so-called progressiveness of the Enlightenment and the knowledge it produced was an era of dubious Western intellectual activity constructed as ‘rational’ and ‘objective’. In actuality, the Enlightenment, through projects of imperialism, effectively obliterated and delegitimized the knowledge of colonized and oppressed populations, operating to present civilized and intellectual history as white.

These projects include the enslavement of African populations, the genocide of Indigenous populations in the Americas, and imperialism in the Middle East, for example. In the case of slavery, to reconcile the contradiction between Enlightenment ideals of democracy, egalitarianism, and inalienable rights with human bondage (Wacquant, 2000, p. 379), racialized populations were constructed through Western scholarship as biologically and intellectually inferior (Baker, 1998, p. 13). Through using academic disciplines such as Anthropology, fraudulent social constructions of race were presented as scientific forms of knowledge that served a functional purpose for the aims of Western hegemony. Moreover, Said’s (1978) ‘Orientalism’, delineates a mode of knowledge production, where Western scholarship furthered European imperial projects. From this, ‘objective’ and ‘rational’ knowledge which lacked any intellectual honesty constructed what is known geopolitically as the Middle East. It also served to construct its inhabitants as backward, lazy, inherently violent, and intellectually inferior, justifying ‘corrective’ interventions by the West even today (Said, 1978, p. 41).

The construction of the inferiority of colonized populations and their knowledge may be understood as a Foucauldian discourse that, as evident through the Eurocentric conceptualization of the public intellectual, maintains 'rational' and 'objective' intellectualism as Eurocentric. Stuart Hall (2006) drawing on Michel Foucault expands on this, defining discourse as "...a group of statements [that are] a way of representing a particular kind of knowledge about a topic ... [which] limits the other ways in which a topic can be constructed" (p. 165). Significantly, power dynamics are key in constructing discourse as true in that "...those who produce the discourse also have the power to make it true" (Hall, 2006, p. 169). With this said, the Eurocentric nature of the public intellectual operates as a discourse. For, as intellectualism is and historically has been constructed as Eurocentric, this discourse limits what may count as intellectualism by excluding marginalized and delegitimized forms of knowledge as the antithesis of intellectualism.

This manifests in academia. Racialized academics often face subtle forms of discrimination that their white-counterparts are oblivious to (Henry & Tator, 2012, p. 75-79). Take, for instance, a Black female academic who was told by a white colleague that she spoke "very well for a Black person" (Henry & Tator, 2012, p. 81). Similarly, some question the validity of Edward Said's status as a marginalized academic public intellectual by virtue of his Palestinian roots. Posner (2003) argues that Said is "unconvincing" as a marginalized academic public intellectual for "...nothing in Said's speech or physical appearance marks him as foreign" (p.32). In both these instances, what is evident is a Eurocentric conceptualization of the intellectual that racialized academics do not fit, unless they forgo their racialized identities.

Moreover, the relationship between Eurocentric knowledge production and Western hegemony represent power dynamics that are key in maintaining intellectualism as Eurocentric, consequently operating to further Western hegemony. Here, Western hegemony can be understood as a representation of inequality and subordination (such as free market capitalism and neoliberalism) as if it were an order of equality

and reciprocity, and is an ongoing process that must be continuously maintained and (re)produced (Hall, 1980, p. 334). Such that, the power dynamics in maintaining intellectualism as Eurocentric operate to reproduce this guise of equality and reciprocity. In unpacking the traditionalist framework of the public intellectual through regimes of knowledge that have their roots in imperial projects, it is clear that the Eurocentric conceptualization of the public intellectual possesses a direct and structural link to "...empire, [and] an imperial frame of reference" (Dabashi, 2015, p. 97).

It is no surprise that what is advanced as intellectualism is exclusionary to the knowledge of historically racialized groups who stand to oppose Eurocentrism and, by extension, Western hegemony. As society can only be as fair and just as the knowledge it is based upon, in an age of anti-intellectualism and growing inequality, the need for public intellectuals that depart from a traditionalist Eurocentric framework is paramount.



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Footnotes

¹ Sharon Jessop's (Jessop, 2013) recent article is the only text that deals with Benjamin's account of the divine violence of education in any depth. Jessop, however, approaches Benjamin from a pedagogical perspective rather than a political one.
² One reason why Benjamin's text has long been seen as so esoteric and difficult comes down to this question over the translation of Gewalt.

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