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PROBLEM OF FAKE NEWS:
A ROLE FOR EDUCATION?**

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Confronting the Wicked Problem of Fake News:

A Role for Education?

Donald A. Barclay

Fake news—by which I specifically mean the Digital Age phenomenon that emerged alongside twenty-first-century social media—broke as a major news story and topic of debate in 2016. In that year alone, the phrase “fake news” appeared in the headline of fifty-eight articles published in the *New York Times*. By comparison, over the course of the previous year, “fake news” appeared in only a single *New York Times* headline. Seemingly faster than a speeding electron, fake news transformed social media from a mostly harmless, if self-indulgent, way to communicate with friends and family into a high-capacity conduit for false or misleading information that, prior to the Digital Age, would have seen little or no circulation. Over the course of the last three months of the 2016 U.S. presidential election, for example, the twenty top-performing fake news stories about the election “generated 8,711,000 shares, reactions, and comments on Facebook.”¹ In May of 2018, Democratic Party members of the U.S. House Intelligence Committee released 3,400 Facebook ads purchased by Russian agents between mid-2015 and mid-2017 as evidence of Russian efforts to use fake news as a means of swaying public opinion and influencing elections in the United States.² In spite of social media being widely acknowledged as a conduit for fake news, people nonetheless turn to it as a source for news. A Pew Research Center survey published in May 2016 reported that 62 percent of adults in the United States get news from social media, with 18 percent doing so often.³

HOW SERIOUS A PROBLEM IS FAKE NEWS?

In spite of such alarming data, it is fair to ask, “How serious a problem is fake news?” The answer is far from clear. For one thing, getting one’s news via social media does not necessarily equate to exposure to fake news, as social media provides access to credible as well as fake news. Almost all mainstream news outlets use social media to connect with their audiences, with news from such well-established, largely trustworthy sources as *The Washington Post*, *Le Monde*, *El País*, and the BBC (to name just a few prominent examples) being accessible through social media. In the same breath, it is not as if consuming only news reported by mainstream media outlets provides 100% immunity against false or misleading information. As a creation of imperfect human beings, the news distributed via mainstream media can be influenced by bias or manipulation, contain honest mistakes, or be rendered incomplete through omissions that are unavoidable in a news-gathering environment in which the time and resources to cover every angle of every story are lacking. Instead of considering the total amount of fake news people get via what we might call “outsider media,” it is much fairer to consider the difference between the amount of false or misleading information accessed via outsider media versus the (presumably lesser) amount accessed via traditional media.

Also, the impact of fake news appears to depend on where one lives. Compared to the finding (cited above) that 62% of adults in the United States use social media as a source of news, a Reuters’ Institute report found that, among European nations, the percentage of the population using social media as a source for news in 2017 ranged from lows of 29 percent (Germany) and 38 percent (France) to highs of 62 percent (Portugal) and 69 percent (both Greece and Hungary).⁴ What is more, according to this same Reuters’ Institute report, relatively few Europeans recall encountering the most blatant forms of fake news and that “respondents in Germany and France routinely use the English phrase ‘fake news,’ suggesting that this is something that has been largely imported rather than a home-grown phenomenon.”⁵ All of which supports the idea that fake news is most prominent in those nations where political and economic conflicts are most extreme.

DOES FAKE NEWS CHANGE OPINIONS?

There is also the question of the degree to which opinions are changed—as opposed to simply reinforced—by fake news. Suppose, for example, a climate-change denier encounters a fake news item and, in spite of recognizing it as fake, nonetheless shares the item because the content attacks the legitimacy of scientific findings on climate change. Obviously, that item of fake news did not change the opinion of the person who shared it, as he or she was already a climate-change denier. Suppose further that among the recipients—some of whom are climate-change deniers and some of whom accept climate change as scientific fact—no opinions were changed by the fake news item. Under such a scenario, the measurable impact of the fake news item is zero. Indeed, in spite of all the furor over the impact of fake news on the 2016 U.S. presidential election, the authors of a study published in *The Journal of Economic Perspectives* write that their analysis of an (admittedly limited) fake news database:

suggests that if one fake news article were about as persuasive as one TV campaign ad, the fake news in our database would have changed vote shares by an amount on the order of hundredths of a percentage point. This is much smaller than Trump’s margin of victory in the pivotal states on which the outcome depended.⁶

While a mere suggestion contained within a single, limited study does not authoritatively answer the question of whether or not fake news did (or could) change the outcome of a national election, it does give pause. What if fake news is yet another moral panic, another case of millions of people wringing their hands over what turns out to be a non-existent threat? What if Brexit, the Trump victory, and the growth of nationalist movements in a number of western democracies would have transpired as they did with or without fake news?

The measured response to such questions is that, regardless of how many minds it does or does not change, fake news clouds the information landscape by inserting needless uncertainty in

the minds of those exposed to it. Decisions, whether on the personal or societal level, are best made on the basis of credible information. Fake news contributes to information overload, making it ever more difficult for individuals to sort out information that is more credible from that which is less so. Individuals bombarded with too much fake news, who become overwhelmed by what is metaphorically referred to as a “low signal-to-noise ratio,” may respond by resorting to the nihilist’s position of rejecting every bit of information they encounter as a lie or by taking the partisan’s stance of questioning (and immediately rejecting as false) only that information which contradicts their already held beliefs. Neither of these coping mechanisms lends itself to making informed decisions, which is why teaching people—especially young people—how to evaluate and manage information in the Digital Age must become a priority for educational systems worldwide.

WHAT IS MEANT BY FAKE NEWS?

Before thinking about teaching anyone how to cope with fake news, it is necessary to define exactly what is meant by a phrase so slippery that BuzzFeed editor Craig Silverman, who helped popularize the use of the phrase in its current form, has written, “I cringe when I hear anyone say ‘fake news.’”⁷ Confusingly, the phrase “fake news” has come to mean different things to different people. For some, fake news is used to describe any information that conflicts with their personal beliefs without regard for how credible that information may or may not be. Perhaps the most well-known example of this interpretation of the phrase is manifested by U.S. President Donald Trump, who dismisses (much to the delight of his supporters) any criticism of himself or his policies as “fake news.” Such a self-serving and partisan definition of fake news is not useful for evaluating the credibility of information. A second, more useful, definition of fake news would read something like “information that is completely fabricated for the purpose of either making money or advancing a particular political or social agenda, typically by discrediting others.” Examples of this type of blatantly untrue fake news story pop up seemingly everywhere, with almost any person or group potentially ending up as the target of an intentionally constructed lie. Even a business can become a target, as was the case with U.S.

yogurt company Chobani which, starting in 2016, became the target of a campaign of vicious fake news stories inspired by the immigrant-friendly philosophy of the company's founder, who is himself an immigrant.⁸

While this second definition is useful for identifying the most egregious type of fake news, it does not lend itself to items that include some (often small) amount of credible information but which spin the facts to such an extent that most of the truth gets lost in the telling. A hallmark of propaganda, the mingling of a shred or two of fact with large doses of falsehood in order to sway opinion is an old and familiar tactic. For a historical example, propagandists in Nazi Germany famously mixed a few legitimate facts about the Treaty of Versailles with wild distortions and exaggerations in order to inspire hatred towards those they counted as their enemies. Digital fake news stories that take a credible fact or statistic and then misrepresent or exaggerate it are quite common, as was the case with a popular meme claiming that, since 1980, the State of California has opened twenty-two new prisons but only one new university; while the number of new prisons cited in the meme is correct, the State of California has actually opened four new universities since 1980.

The essential problem with defining fake news is that most information does not fall on either extreme of the credibility scale. While rational people will agree that a statement such as, "The sun revolves around the Earth, which itself is flat," is false while a statement such as, "At sea level, an uncovered beaker of water boils at 100 °C" is true, the kind of information we label as "news" most often falls between the extremes of false and true, and deciding where on the scale of credibility any given news story falls requires nuanced critical thinking skills. Indeed, purveyors of fake news often seek to discourage critical thinking by portraying a world of stark black and white in which information is either all true or all false, a political leader is either a total hero or a total villain, an economic theory is either entirely sensible or entirely insane. In spite of the reductionist approach of social media polemicists, critically evaluating information is a subtle art that represents a much greater challenge than robotically sorting items into one pile labeled "true" and another labeled "false."

FAKE NEWS: SOMETHING OLD

At least part of the recent furor over fake news is due to the fact that fake news seems like an entirely new threat to democratic institutions and processes, one quite possibly born of the breakneck changes digital technology has wrought in the way people communicate and, perhaps, think. Before considering what is new about fake news, however, it is important to consider the ways in which fake news pre-dates the Digital Age.

Like so many newly emerging phenomena, fake news contains elements that stretch far back in time. The key element of all fake news—the lie—almost certainly pre-dates written language and has been, and still is, used by humans for a number of familiar purposes: to avoid or shift blame, to accumulate wealth and power, to dominate and control others. Propaganda, an all-too-familiar form of fake news, is not as ancient as the lie, but it nonetheless dates back thousands of years. The earliest known written propaganda, the Behistun Inscription, dates from around 500 B.C.E.⁹ More recent examples of official propaganda appear so routinely throughout history that finding an example of any regime, culture, or nation—past or present—without at least some propaganda to its (dis)credit is nearly impossible. Beside emanating from royal palaces, religious edifices, and government offices, propaganda has, throughout history, poured forth from legions of independent (in some cases, only nominally so) newspapers, magazines, journals, and (in recent times) digital outlets fixated on one partisan cause or another.

Humor is another conduit for the transmission of fake news with a history that long pre-dates the Digital Age. Humor plays a role in fake news when a clever turn of phrase, an exaggerated image, or bit of mockery is used to distract from the fact that the information being conveyed is entirely or partly false. When we encounter something that is amusing to us, our capacity to think critically about the message conveyed though the joke is lessened, especially when the butt of the joke is an idea we already reject or group of people we consider strange or wrong

thinking. For a relatively recent example, during the Second World War beloved children's book author and illustrator Theodore Geisel (better known as Dr. Seuss) drew racist political cartoons that used humor (or what passed for humor at the time) to depict all persons of Japanese descent living in the United States as bomb-making traitors eagerly awaiting orders from a Japanese homeland most of them had never laid eyes upon.¹⁰ Satire, as a sub-genre of humor whose jokes at times fly over the heads of its audience, is especially at risk of serving as an unintentional vector for fake news. Famously, Jonathan Swift's satirical essay, "A Modest Proposal" has, since its initial publication in 1729, been repeatedly mistaken as a work that seriously champions the idea of relieving poverty through the eating of children. In the Digital Age, there are many examples of satire being mistaken for fact, as has happened frequently with articles published by the satirical website *The Onion*.¹¹

Finally, mercenary fake news—false information created for the sole purpose of making a profit— has also enjoyed a long history. In 1844 the *New York Sun* ran a fake news story by Edgar Allan Poe describing how a group of travelers had completed a three-day crossing of the Atlantic Ocean in a "steering balloon."¹² The story, which is not the only example of mercenary fake news from that era (and before), was entirely invented by Poe in order to pocket some quick cash from publishers more interested in selling newspapers than in dispensing truthful information. It was, therefore, nothing new when, during the 2016 U.S. presidential election, teenagers in the small town of Veles, Macedonia launched over 150 websites featuring pro-Donald-Trump mercenary fake news stories strictly as a way to earn money rather than out of any politically motivated interest in the outcome.¹³ A related (and quite familiar) form of mercenary fake news is found in commercial advertisements, a medium of communication that has always been willing to stretch, bend, or break the truth in the blind pursuit of profits. Perhaps the best example of egregiously false commercial advertising is seen in post-war magazine advertisements featuring medical doctors as a way of reassuring smokers that cigarettes will not damage their health.¹⁴

FAKE NEWS: SOMETHING NEW

What, then, if anything, is new about fake news in the Digital Age? First, no matter how you measure it, the sheer amount of information produced in the Digital Age dwarfs that produced in past eras. As of 2018, there are around 200 million active websites.¹⁵ Twitter users send around 500 billion tweets per year.¹⁶ The worldwide number of Facebook users totals over 2.2 billion.¹⁷ As if navigating a vast ocean of social-media generated information were not enough to contend with, the average seeker of credible information is confronted with a worldwide 24/7 news cycle and ever-growing numbers of scholarly articles and books. Information overload burdens today's information seekers to an extent unknown to previous generations.

That such overwhelming amounts of information are so widely available is attributable to the speed and low cost with which digital information can be created and distributed. Prior to the emergence of digital technology into everyday life, distributing a piece of information to, say, 100,000 recipients required not only creating the information, but also making thousands of physical copies and somehow distributing them, both of which actions incur significant up-front costs. In the Digital Age, creators of fake news can cheaply and rapidly launch message after message into the social media void. Not every message is going to go viral, of course, but if one message breaks through the noise of social media, it has the potential to achieve a goal that only the most privileged messages of the analog era could possibly match—reaching an audience of millions. This potential is further enhanced by the ease with which a digital message can be copied and redistributed by engaged recipients. Besides enjoying the convenience of speed and low distribution costs, creators of fake news in the Digital Age operate at much lower risk of being sued for libel, slander, or defamation than do traditional journalists, especially when creators hide behind false identities and/or reside in a part of the world remote from the parties they have aggrieved.¹⁸

Finally, it has become far easier to alter information in the Digital Age than was the case when all information came in analog forms. Though the altering of photographs is nearly as old as

photography itself, familiar digital tools such as Photoshop have made it possible for people with very little training or expertise to alter photographic images for purposes of deception. What is more, emerging digital tools are making it possible to engage in even more convincing fakery. Adobe's VoCo allow users to create fake audio recordings which faithfully reproduce a speaker's voice,¹⁹ while deepfake technology employs artificial intelligence to create realistic fake videos by superimposing the face of one person on the body of another.²⁰ Regardless of the extent to which fake news is or is not shaping opinion or changing the course of nations, the job of separating more credible information from less credible information has become more challenging than ever.

THE WICKED PROBLEM OF FAKE NEWS

The concept of the "wicked problems," which emerged from the field of social planning in the late 1960s, is a way of thinking about problems that:

- do not have a stopping rule;
- are not well understood;
- for which there are no ideal solutions, only better or worse solutions.

For example, fighting a large warehouse fire, though complicated and difficult, is not a wicked problem because there are standard procedures for fighting such fires and there is a stopping rule in effect. (I.e. either the fire is successfully suppressed or the fire goes out when the warehouse finally burns to the ground.) On the other hand, problems such as climate change, poverty, and fake news are clearly wicked problems that lack clear and definitive solutions.

In what ways does fake news fit the mold of a wicked problem? First, the fact that fake news, in its various forms, has been around for centuries indicates the problem has no stopping rule; which is to say, there will never be a day when humanity declares final victory over fake news. Second, that the phenomenon of fake news is not well understood is evidenced by the multiple

definitions applied to the phrase as well as the many unanswered questions swirling around the issue:

- To what extent does fake news influence real-world thinking and behavior?
- Is the anonymity (real or perceived) of digital technology the root cause of fake news?
- Is fake news a genuine reflection of increasingly deepening divisions over politics, religion, race, and economics, or is it an anomalous byproduct of rapid technological change?
- To what extent is fake news the product of government-sponsored disinformation campaigns?

Third, there is no standard method for fighting back against fake news and, thus far, nothing close to an ideal solution to the problem. For example, after the 2016 U.S. elections, Facebook pledged to impose a series of changes to the Facebook News Feed as a way of fighting back against fake news, yet when the story of the Las Vegas shooting massacre broke in October 2017, fake news stories falsely linking the shooter to the U.S. Democratic Party and the left-wing Antifa movement shot to the top of the Facebook News Feed right alongside stories from more credible media sources.²¹ Fake news is a wicked problem that lacks a quick, easy, and satisfying resolution, but that does not mean it cannot be confronted with solutions that, while imperfect, are preferable to simply ignoring the problem and hoping it does not do too much damage. Included among the solutions we must apply to the problem of fake news is education.

THE ROLE OF EDUCATION

The Digital Age is also known as the Information Age, and, given the importance of information in every aspect of life in the twenty-first century, it is past time for schools and universities to integrate the evaluation of information into their curricula. While students are required to take multiple courses in core subject areas such as mathematics, sciences, languages, and social sciences, educational requirements related to evaluating the credibility of information—the

essential stuff on which all core subjects are based—are almost nonexistent. As teachers and education officials go about the seemingly never-ending task of revising programs of study, they must consider incorporating standards and requirements focusing on the evaluation of information. Teaching students to understand how information is created, how it is disseminated, and what makes a given information source more credible or less credible can, and should, start early. Any child who is old enough to understand how playground rumors spread falsehoods can be taught how the rules of the playground spill over into the adult information world. And just as teaching a subject like mathematics or reading builds on simple concepts, teaching students to evaluate information can move from analyzing playground rumors to, for a few examples, spotting falsehoods in deceptive advertisements, identifying logical fallacies, detecting satire, and understanding how information produced by scientists and other scholars is created, peer-reviewed, and subject to informed debate among experts.

Innovative educators are already coming up with effective ways of engaging students with the challenges of evaluating information and identifying fake news. For one notable recent example, a French journalist created a pseudo-documentary promoting a theory that the CIA intentionally spread AIDS in Cuba. Students are allowed to view and react to the pseudo-documentary before viewing a follow-up video that explains that the video they just viewed was based entirely on lies. The follow-up video then goes on to demonstrate how the pseudo-documentary used such techniques as menacing music and trigger words like “CIA” and “AIDS” to exploit viewers’ emotional responses and pre-existing assumptions in order to deceive them.²²

Another creative approach teachers might use is to challenge students to refute fake news that targets the students themselves rather than some abstract other. For example, a teacher could present students with examples of articles and opinion pieces characterizing the Millennial Generation as lazy, spoiled, frivolous, and generally unworthy of the respect of their elders. Because such generational slams are almost entirely based on no data or bad data, students asked to conduct research to counter these fake news slanders *against themselves* would not

only get the opportunity to practice researching and evaluating information, but would also, in the process of defending their own honor, gain insight into how purveyors of fake news use selective, exaggerated, or straight-up invented facts as a means of attacking others.

Because fake news is a wicked problem, educating students to think critically about information is not, all by itself, going to heroically kick down the door and save the world from its own worst instincts. Education could, however, raise up generations that are less gullible about accepting the outpouring of lies, bias, and cooked-up conspiracy theories that have flourished with the growth of social media. Even as I was writing this article, Facebook announced the launch of a major initiative to combat fake news that includes a public education campaign—evidence that the company squarely at the center of the fake news problem sees education as part of the solution.²³ Though the wicked problem of fake news can never be completely eliminated, I hold out the hope that educational initiatives to develop information-literate students can—in combination with both anti-fake-news tools based on machine learning and renewed efforts by companies like Google, Facebook, and Twitter to fight fake news—help reduce the problem of fake news to the point that it is relegated to the rank of minor annoyances rather than looming large as a significant threat to peace, prosperity, and democratic decision making.

Donald A. Barclay is the author of *Fake News, Propaganda, and Plain Old Lies: How to Find Trustworthy Information in the Digital Age?* (Lanham, MD.: Rowman & Littlefield, 2018).

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