

3

Technology's Role in Global Journalism and Communication

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Our awareness and understanding of what happens in locales outside our communities or beyond national borders often rely on communication technologies. Imagine people who have never traveled to a given nation, they would have to depend on the media—including broadcast news, tourism advertisements, travelers' comments and reviews, and even bots-generated posts—to obtain any information about that nation. Essentially, our perception of the world is, to a great extent, dependent on the type and amount of media we consume—because we cannot be everywhere at all times. What's more, our directly observed, literal reality under certain circumstances can be less important than the counterpart presented and discussed in the media. Given the increased penetration of communication technologies around the world and the different types of new media platforms, a wide variety of important issues have come to the fore and warrant new discussion. This chapter offers a brief introduction of key technologies and developments that have taken place in the past few decades and addresses several pressing issues related to their influence on journalism and communication around the globe.

As communication across national borders relies greatly on the media, it is vital to examine the role technology plays not only at the personal but also at the aggregate level. The 2018 Facebook-Cambridge Analytica data breach, which leaked private data of 50 million users to third parties, led to an international outcry about privacy and surveillance issues worldwide (Rosenberg, Confessore, & Cadwalladr, 2018)—and this case merely shows the tip of the iceberg. The 2019 Mueller Report unveiled Russian interference in the U.S. election campaign through targeting social media users and brought transnational distribution of disinformation, misinformation, and alternative facts to the fore. With the rising penetration of social media networks in almost every corner of the world and the increasing influence of global technology juggernauts such as Alphabet, Facebook, and Tencent, communication scholars have raised questions about the credibility of myriads of online information sources, their sophisticated operation, and nefarious manipulation of public opinion at the global level (Jones, 2019). While technology companies have largely avoided public scrutiny, how do journalism entities cope with ongoing technological advancement and how does the Internet-based, computational operation affect communication across national borders (Woolley & Howard, 2019)? This chapter addresses the role of technology in content creation, dissemination, and

automation and its impact on how we understand the world. The following also explores the implications of technologies and cyberspace for media professionals and policymakers to improve the flow of accurate, credible information between countries.

EVOLUTION OF COMMUNICATION TECHNOLOGIES

Before we address current developments, it is beneficial to look back, briefly, at the past century to inspect the impact of a few technologies on global journalism and communication. The impressive list of major media technologies invented in the twentieth century includes radio, television, computer, digitization, satellite, smartphone, and the Internet, each of which has affected what, when, where, and how people from different parts of the world communicate. One of the most researched media technologies is television, primarily due to its omnipresence and capacity to instantly transmit not only audio but also video content. The term “global village” was first coined (McLuhan & Powers, 1989) to reflect the interconnected lives and shared experiences of the world’s different locations, thanks to television. In a way, television contributes to the abatement of geographical distance and extension and homogeneity of human consciousness, profoundly affecting people’s sense of place (Meyrowitz, 1986). Most apparent examples would include large global sports events like the Olympics or the World Cup that are immediately shared by viewers all over the world. Undoubtedly, television as a medium has propelled the speed of globalization.

Yet, on the other hand, the dispersion of information, cultures, and national images shown on the very medium can be considerably uneven and inaccurate. For one thing, the cost of television content production, transmission, and needed infrastructure may prevent poor countries from competing with those with more financial, technological, and human resources. This imbalance between the haves and have-nots among the world’s nations has resulted in uneven flow of information and cultural products across national borders (Mowlana & Roach, 1992); in other words, certain parts of the world are less likely to be covered by the news media (Stevenson & Shaw, 1984) and their entertainment output is more difficult to circulate globally. Additionally, a disadvantaged nation’s reliance on media content from elite nations might yield negative influence, including undermining its indigenous culture and self-identity (Aslama & Pantti, 2007) rather than being economically beneficial, as development communication scholars originally envisioned and predicted (Lerner, 1958; Schramm, 1964). The effects from the global export of television content can range from inundation with national stereotypes and clichéd images of foreign destinations to formulaic reality and game shows adopted worldwide (e.g., *America’s Got Talent*).

The palpable influence of television, a global medium (Lule, 2015), can also be examined together with other connected technologies, such as cable, satellite, video streaming, and so forth. Each of the aforementioned technologies may have accentuated different aspects of impact on global communication. For example, thanks to the advent of cable news and its insatiable need for news content, more comments and opinions have been included in news programming than hard facts. The constant and instantaneous live coverage of disruptive events outside national borders has forced national leaders to accept interview invitations and make prompt responses—or even take immediate action that would otherwise have needed far more diplomatic deliberation and consultation. Without the hasty policy announcement, they run the risk of looking weak and indecisive to their domestic supporters and worldwide

stakeholders. This phenomenon was termed “CNN effect” to epitomize the significant impact that television coverage of international events such as civil wars or humanitarian crises has on foreign policymaking, forcing national leaders to intervene due to public pressure (Gilboa, 2005). Similar to cable and satellite television, digitally transmitted, online-based media have also exponentially increased, allowing for more partisan and divisive perspectives about individual nations to percolate into global discourse. With more access and capacity, media technologies have paved the way for more heterogeneous, voluminous, and valenced (even polarized) discourse about world affairs and global issues. For example, the dramatically different angles adopted by MSNBC and Fox News when covering global warming and climate change illustrate the point; so do other globally distributed television channels such as Al Jazeera, BBC (British Broadcasting Corporation), and CCTV (China Central TV). Their impact on the nature and characteristics of global communication will be discussed later in the cyberspace section.

Communication infrastructure such as satellites, fiber optic cables, and cellular towers should be considered key technologies that have also transformed how journalism is practiced and its produced content accessed/consumed worldwide. Most people probably are not aware of their extensive contribution but many existing communication and media services that the entire world enjoys rely on them. Pelton (2010) pointed out the crucial role satellites have been playing in facilitating globalization, making nations intricately interconnected and interdependent. Satellites beam down to almost every corner of the world at all times to transmit information, meet the demands for entertainment, facilitate business transactions, and much more. Another significant unintended consequence of satellites is allowing global access to instantaneous information around the clock, which has many ramifications for global commerce, international relations, and policy-making, including the “CNN effect.” All of these aforementioned aspects of changes undoubtedly bolster globalization.

Aside from infrastructural technologies, personalized mobile phones and their direct and collateral benefits and impacts at the global level cannot be overstated. Mobile phones (a broad category that may include smartphones and tablet computers connected via a cellular system) have provided critical communication services for countries with scarce resources in the latter half of the twentieth century and were found to have elevated quality of life and counter-balanced uneven information flow patterns in the global South (Ling & Horst, 2011). With its potential leapfrogging impact on economic performance, education, health, and culture in the South (Hyde-Clarke & Van Tonder, 2011), there was much hope that mobile phone technology would provide a level playing field. However, it remains to be seen whether the potential for increasing access, level of participation, and contra-flow of information originating from the Global South will be fulfilled in the future.

Other technologies also have generated a profound impact on how individual nations connect. Online technologies that take advantage of artificial intelligence so far have only shown the beginning of the major global transformation that lies ahead (Davenport, 2018). While it is challenging for us to foresee future trends, technologies will undoubtedly make the world even more connected and integrated. As we have witnessed, each of the platforms created on the Internet has brought various types of influence on the world: for example, blogs were found to give rise to the demands of the “voiceless” for more freedom, self-identity, and power (Russell & Echchaibi, 2009). Additionally, transnational strategic use of social media has been linked to initiating or sustaining the Arab Spring (2010) and the Occupy (2011) protests, and the globalized #MeToo (2019) movement would not otherwise have been thought possible.

CHALLENGES OF GLOBAL COMMUNICATION

Before the advent of the Internet and Web 2.0, international news carried by mass media had been the primary source upon which communication between nations was based. News produced at a locale or region, primarily controlled by international news agencies (e.g., AFP, AP, Bloomberg, and Reuters) and transmitted through national borders to various parts of the world mattered tremendously. The volume, valence, characteristics, and dissemination of the news about a given nation, culture, people, or region can introduce vital issues, which have been vigorously debated by scholars and are discussed in other parts of the book. The following section introduces three interconnected issues that pertain particularly to communication technologies that pose serious challenges for global communication.

One critical component of global communication nowadays stems from governmental, corporate, and non-governmental organizations' efforts in enhancing their influence and gaining the support of the international public. The channel of influence is beyond traditional journalism practice and orchestrated by industry-backed, professional execution. The execution of reaching out to the international public can be technologically sophisticated, financially compelling, and psychologically savvy. Public diplomacy is often used to describe such operations (Manheim, 1994) and has become more important than traditional diplomatic work that has been firmly grounded in official communication, interpersonal relationships, and diplomatic protocol. The emphasis of public diplomacy today is placed on mediated persuasion that is targeted directly at foreign publics (Entman, 2008) and is intended to win "the hearts and minds" of global constituencies (Nye, 2004; Servaes, 2012). Public diplomacy, in addition to issues related to cyberspace and post-truth, deserves further discussion.

PUBLIC DIPLOMACY

This subfield of international communication tends to be more practitioner oriented and overlaps significantly with public relations and international relations. It has been used by governments, NGOs, and the private sector (Manheim, 1994) to inform and influence foreign publics in order to gain support for the sponsoring entity's goals, policies, and interests (Tuch, 1990). Public diplomacy deserves a rekindled attention in the context of technological change for several reasons. For one thing, public diplomacy is no longer a mere supplement to conventional diplomacy. It goes beyond making splashy advertisements for foreign audiences or maintaining international broadcasting operations, which are still keenly practiced by global powers such as China and Russia (Massoglia & West, 2018). Now, technologies like AI algorithms and geosocial targeting can generate unprecedented, superbly tailored messaging for individuals worldwide. How nations communicate today with international publics is deeply affected by media technologies. Throughout history, one can see the distinct influence from different mediums during different points in time. Radio, for example, was strategically utilized during World War II by both the Allies and Axis nations that transmitted their propaganda messages. Currently, the frequent use of social media, such as Twitter, by prominent political leaders has resulted in unfathomable impact on cross-national relations and foreign policy and has facilitated direct communication with global audiences (Duncombe, 2017). This practice of "Twitter diplomacy" and its impacts on public opinion around the world needs to be thoroughly ascertained.

Traditionally, promotional information and images of individual nations have been clearly labeled as promotional content and/or placed in a distinct section of news media. However,

the distinction between editorial and sponsored content, due to business pressure, has blurred. That is to say, audiences would have tremendous difficulty in distinguishing editorial content or entertainment from promotion, because ads can be equated with news (naked advertising) and movies and games can use long-format or interactive ads that feature a place on earth (product placement). Tiffany's, a jewelry store, centered in *Breakfast at Tiffany's* or Dubrovnik, Croatia featured prominently in *Games of the Thrones* are just two examples. The combination of public diplomacy and unscrupulous, profit-driven media practices should lead us to trace and question how people's opinion and evaluation of foreign nations really come about.

While public diplomacy efforts to create content appropriate for foreign nations are usually accepted, their interference with creative and journalistic works can be frowned upon and encroach on freedom of expression. Hollywood's financial clout that eyes in the gigantic Chinese market, for example, has been reported to directly intervene in the production process, including rewriting scripts for movies or changing the villains' nationality (Qin & Carlsen, 2018). Given this, one needs to examine not only text-based information, but also images, visuals, and effective memes associated with nations from comprehensive sources, including movies and social media (Elasmar & Groshek, 2017).

POST-TRUTH FLOW

Traditionally, the volume of information and the direction of news flows from one part of the world to another has been a critical issue in international communication. As discussed in chapter 5, the long-term concern about the imbalance of information flow between the North and the South sparked debates about a New World Information and Communication Order (NWICO) and raised discussion about the potential of communication technologies to empower and strengthen smaller media organizations in the developing world. There has been a great body of empirical works devoted to investigating the pattern and genres of international news coverage (Golan, Johnson, & Wanta, 2010; Hester, 1973) and many editorial and contextual determinants have been identified (Segev, 2016; Wu, 1998). However, the news is merely one facet of content that flows across borders; other types of content of interest include infotainment (Thussu, 2007), entertainment content (Walter, Sheaffer, Nir, & Shen-hav, 2016), film (Fu & Sim, 2010), and recently, post-truth.

The concept of post-truth is broad (Beckett, 2017; McIntyre, 2018) and includes misinformation, disinformation, "junk news" and "fake news" (Howard, 2020). These terms generally refer to false content deliberately created to sway public opinion toward an issue, organization, or country. Such content quickly spreads across national borders via multitude means of strategic sharing and delivery, often relying on social media channels. Russia's targeted use of social media in an effort to influence U.S. voters' perceptions and possibly voting outcomes during the 2016 presidential election provides a vivid example (Allcott & Gentzkow, 2017; Grinberg, Joseph, Friedland, Swire-Thompson, & Lazer, 2019). Recently, many other nations, including Iran and Saudi Arabia (Reuters, 2019), have also resorted to social media to troll and fabricate tactically tailored content to generate sociopolitical impact in various nations.

The widespread of false information, especially online, has been a challenge for journalists who are expected to solve the thorny problem for the public (Mitchell, Gottfried, Stocking, Walker, & Fedeli, 2019). The task of fact-checking content on the myriads of media platforms is critical to democracy and public health, but average users do not have the expertise necessary to do this—thus, media literacy training would not suffice and industry regulations may

be urgently needed. However, social media platforms, where most disinformation originates, have faced complex and evolving laws and regulations and have taken different stances when it comes to flagging false and potentially harmful information on their platforms. As a case in point, Facebook and Twitter took opposite actions in May 2020 when facing Donald Trump's social media posts (Isaac & Kang, 2020).

The Chinese control of and intervention on the Internet and ingenious ways of disseminating self-benefiting messages to other countries are also worth discussing (Cook, 2019). Because of China's highly controlled communication system, Mokry (2017) reports that the most frequently quoted sources in Western mainstream media are from the Chinese central government. The Freedom House's Annual Report says that the Chinese endeavor may "undermine key features of democratic governance and best practices for media freedom" (Cook, 2019, p. 10). The most significant human resource invested in monitoring online content and steering social media discourse is the so-called 50 cent army, composed of government employees whose task is to screen all online information (King, Pan, & Roberts, 2017). The well-orchestrated cyber program has utilized multiple methods to shape foreign public's perception of China. For example, China-backed efforts to reach soybean farmers via mainstream media were made in order to influence the 2018 midterm election (Cook, 2019). Similarly, twenty-three websites registered in Taiwan were found to disseminate fake news directly from China's government to influence Taiwan's presidential election in 2020 (Chung-shan, Hsin-fang, & Hetherington, 2019). These anecdotes unveil that technologically advanced communication apparatus has been implemented by nation-states or their proxies in order to affect political outcomes in another nation.

Social media automation through the use of algorithms, artificial intelligence, and bots can have a marked impact on another nation. The Russian Internet Research Agency (IRA), according to the Mueller (2019) report, strategically intervened through social media:

The IRA conducted social media operations targeted at large U.S. audiences with the goal of sowing discord in the U.S. political system. These operations constituted "active measures," a term that typically refers to operations conducted by Russian security services aimed at influencing the course of international affairs.

(Mueller, 2019, p. 14)

According to the report, by the end of 2016, the IRA had produced 80,000 Facebook posts and reached 126 million people. Twitter reported that 3,814 accounts were controlled by the IRA and 1.4 million may have been in contact with an IRA-controlled account. This trend of reaching out to foreign nationals with disinformation is likely to worsen (Davis & Mazzetti, 2019). Recently, Twitter took down 23,750 accounts linked to China that tweeted 348,608 times, 1,152 Russian accounts that tweeted 3,434,792 times, and 7,340 Turkish accounts that tweeted 36,948,524 times (Observatory, 2020), indicating a regular practice for some countries.

The above cases should shed light on what lies ahead. The era of post-truth (Mcintyre, 2018) has facilitated the practice of spreading emotion-stimulated disinformation and complete falsehood to advance sponsoring nations' interests. Capitalizing on the openness of cyberspace and unfettered connections on social media, countries can and have bypassed traditional news gatekeepers and communicated directly with foreign publics and stakeholders around the world. Moreover, the transmitted content can be meticulously—and automatically—tailored to achieve individual targeting, creating the intended effects the sponsor envisions. News reported that Russian's online operation unit based in St. Petersburg (MacFarquhar, 2018) served exactly this purpose. The old-fashioned cultural events used during peace times or

blatant propaganda operations during war times have been transformed into a far more high-tech, large-scale, and covert manipulation in cyberspace.

CYBERSPACE

Although the majority of international communication scholarship focuses on traditional mass media, a significant volume of global communication takes place in cyberspace. This artificial space arguably has exerted more influence than other types of media in the twenty-first century—it enables a multitude of communication activities and transforms how people access, process, and act on information originating from other countries. It is notable that under certain circumstances the cyber version of the world can overwhelm and overpower the counterparts covered by mass media (Rainie & Wellman, 2014; Turkle, 2011). The combined impact of platform functionality, information creation and sharing, and participation in cyberspace can cut through all the research topics addressed above and has resulted in tremendous changes—both welcoming and challenging. It is therefore no surprise that countries were found to have resorted to cyberspace to skew reality outside their borders (Alba & Satariano, 2019). As Choucri and Clark (2018) indicate, the ease of access to online information has been a great equalizer, enabling weaker actors to influence or even threaten stronger actors in the world. Cyberspace also provides a level playing field for all levels of participants—not only nation-states, but also individuals, private sector companies, and other communities—to voice, collaborate, network, and advocate for their interests, representation, and possible actions. Given these positive indications, does cyberspace really make global communication more transparent, diversified, and horizontal?

Because of various levels of participants (content providers, commenters, opinion leaders, and so forth) involved in cyberspace, the degree of complexity increases exponentially. The term “lateral pressure” was coined to explain cyber entities’ behavior and influence beyond established boundaries (Choucri & Clark, 2018). The #MeToo movement that started in the United States has spread to many other countries and exerted influence in various domains is one case in point. Alt-right and extremist messages, initiated and propagandized on the Internet, also know no national borders and have been blamed to wreak havoc on traditional democracies (Benkler, Faris, & Roberts, 2018). The point here is that nation-states traditionally are the unit of analysis in the communication domain. Yet the Internet has significantly empowered its participants in the cyber communication process. How can individuals be part of and analyzed in international communication? Do/should individuals represent the nation in which they are recognized/come from? These questions can be extended to include alternative participants, such as issue-based online groups or even bots (Veale & Cook, 2018). The issue of participants in cyberspace and their impact on global communication awaits further exploration and clarification.

Zeroing in on “participants” of cyberspace, one can anticipate that certain actors with superior technological know-how and better networks can exert a much greater influence than others. For example, WikiLeaks enjoys unparalleled access to critical information on key leaders and global security; its operation—completely circumventing mainstream media’s mechanism—has been able to create political bombshells worldwide. Tencent’s WeChat messaging service that reaches an estimated 100 to 200 million users outside China can offer a large platform but is closely monitored and censored by the Chinese government (Cook, 2019; Xiao, 2020). The cyberspace ecosystem along with other issues such as sovereignty,

legality, technical management, and online censorship affect global communication greatly. Furthermore, while journalism and mass communication scholars may not be keen on the issues of cybersecurity or warfare—which mostly fall into the realms of data science and international relations (Flournoy & Sulmeyer, 2018)—monitoring of and interfering in communication content and process by foreign nations via cyberspace should be an area of concern. Policy experts and lawmakers therefore should take proactive, sweeping actions.

CHAPTER SUMMARY

This chapter set out to examine the recent interplay between technology and global communication. Cyberspace presents a huge challenge as well as a potential opportunity to transform global communication for the next decades. It could potentially be a great enabler and equalizer for the world's communication participants and enhance the efficiency and magnitude of global communication, despite the unrelenting issues of unequal resources and access. It is also a nexus for the other two critical topics: post-truth and public diplomacy. As explained above, misinformation and the spread of deceptive content online shows some alarming trends, which have been observed in both domestic and international settings. Public diplomacy aims at communicating directly to foreign publics via all types of media in the hope of benefitting sponsoring agents. Merging the two concepts, post-truth public diplomacy (PTPD) strategically disseminates fabricated content across national borders to sway public opinion and bolster the sponsor's interests and goals. PTPD is more than a propaganda apparatus witnessed during world wars, including the Cold War; it is far more sophisticated, technically advanced, and harder to detect by target participants. It has been embraced and implemented by nations of all regions for quite some time and can engender a gargantuan impact on how the world is communicated, understood, and perceived.

One of the major trends in global communication has been Anglo-American influence—in language, pop culture, and media ownership (Stevenson, 1992). The influence in these three areas remains noticeable even today, although it seems to have shifted toward the technology side. Current media technology juggernauts such as smartphone producer (Apple), Internet search engine (Google), content streaming services (Amazon, Apple+, Disney+, and Netflix), and social networking sites (Facebook and Twitter) are all based in the United States. The questions then are whether the prevailing communication system worldwide remains fundamentally uneven and whether these major conglomerates should establish effective mechanisms to curb PTPD and safeguard universal values such as democracy, equal access, and individual privacy and well-being.

The underlying issues from a few media conglomerates that control key technologies are multifaceted, complex, and definitely deserve more attention. For one thing, representativeness, accuracy, and diversity and plurality (of the world's nations, identities, and cultures) in produced and distributed content are always a concern when ownership and management are increasingly centralized. Moreover, the practice of post-truth public diplomacy via the platforms controlled by the conglomerates is one urgent issue as companies wrestle to find solutions how to handle highly deceitful content such as deep fake within civil, open societies (Dowdeswell & Goltz, 2020). Systematic fact-checking and detection of harmful online content by independent, credible entities should be a necessity in order to protect the general public from being misled or deceived. Making sound, effective laws and policies regarding these complex issues should be another feasible pathway for solutions. Lastly, the identified trends

have important implications for journalism practice. At the basic level, news professionals working in highly competitive markets need to resist the temptation to simply repackage stories expediently gathered via the social media or other convenient online sources (Lambert & Wu, 2018). In addition, journalists need to be more prepared and embrace new technologies in order to excel in their jobs and serve the world's information needs (International Center for Journalists, 2018). This might be the best time for them to win back their audiences' trust and attention.

FACEBOOK-CAMBRIDGE ANALYTICA DATA SCANDAL

Christopher Wylie, a whistleblower who worked at Cambridge Analytica based in the United Kingdom, unveiled in 2018 that Facebook violated its privacy consent decree and shared more than 50 million users' private information with third parties, including Cambridge Analytica. The research firm, founded by Robert Mercer, a wealthy Republican donor, and headquartered in London, was involved in crafting effective online strategies for Donald Trump's 2016 presidential campaign. Facebook's violation of its commitment to user privacy is particularly damaging to democratic process because it included not only private data on its own services, but also all types of user information across the web, enabling the so-called psychographic modeling. With this trove of private data from Facebook, Trump's campaign team could effectively custom-build its messages to influence key American voter segments. *The Economist* concludes that "targeting based on Cambridge Analytica's data may have helped Mr. Trump win the presidency, although how much cannot be known" ("The Facebook scandal could change politics as well as the internet," 2018). Additionally, the fact that the Facebook platform—during the same period—was penetrated by Russia's advertisements and trolls that disseminated disinformation and misinformation in an attempt to influence the 2016 U.S. presidential election led the public to believe that the social media giant crossed ethical and legal boundaries, and resulted in increasing distrust among its users and even shareholders.

DISCUSSION QUESTIONS

1. What can average users do to prevent disinformation and misinformation about another nation from impacting their social networks?
2. Should governments and/or social media firms systematically sift, label, or purge falsehood from media platforms? Why and why not?
3. Can you identify any content or message that can be categorized as "post-truth public diplomacy"? Do you know which country it comes from (or which country sponsors it)?
4. What type of technology do you think is most critical to enhancing global communication and improving the representation of the Global South, in particular?

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