

## 0 INTRODUCTION: TECHNOLOGY BEYOND SOCIAL MEDIA

This book started on the street.

It was nine o'clock in the evening and I was on the curb with a Hungarian police officer, who was asking for identification. Specifically, he was asking to see the papers of my graduate student, Tautvydas Juskauskas. In a former life, Tautis was a levelheaded lobbyist in his native Lithuania. In a future life, he would work for the world's largest drone manufacturer and later lead drone operations in Malawi for the United Nations Children's Fund. That evening, however, he was a suspect, wondering what he'd gotten himself into.

Tautis and I were in the process of documenting the largest street protests seen in Hungary since the collapse of the Berlin Wall. The government wanted to raise revenue by taxing the Internet traffic of every business and individual, whether at home or on a digital device. The officer was perplexed by our technology and by our role in the event. We explained that we were conducting research. He demanded our papers. We stalled (I'd forgotten to give Tautis the first lesson in Protest Fieldwork

101: Ditch the ID!), and finally I agreed to give the officer my name. I scribbled Austin Fitzpatrick, my legal name.

“Should we stop flying?” I asked the officer. He thought for a minute, looked at us, looked at our drone, shrugged, and waved us along.

The entire exchange lasted five minutes and drew a crowd of people, some of whom pulled out their mobile phones to document our conversation with the police. Perhaps the presence of citizen journalists bearing witness gave the officer pause. Perhaps he was going to let us go anyway. Whatever the case, we jogged off in an attempt to get ahead of the throng and set up our equipment in time to get aerial footage of the event.

As we arrived in the square, Tautis’ phone rang. It was our contact at the local independent journalism shop. The crowd was almost there, he reported, and ready to engage the drone overhead. We’d planned what would happen next. The crowd was chanting together against the proposed tax, but also in defiance of the increasingly authoritarian government that proposed the law. With this momentum the crowd turned, as one, to point their phones upward. Together, they extended the decades’-old lighter sway familiar to any concert-goer into an entirely new space—pointed not toward a stage, but into the sky, directly toward our hovering drone. At the next protest we did the same thing, capturing the moment an even larger crowd poured over Budapest’s picturesque Elisabeth Bridge.

It was this image that became iconic for the movement and that landed on the cover of the *International New York Times* the next morning. The point here is not that we documented a crowd, but that the *Times*’ photo was of a crowd responding to our aerial

# International New York Times

THURSDAY, OCTOBER 30, 2014

## Egypt moves to carve out a buffer zone along Gaza

CAIRO

Homes are demolished as Sisi steps up response to attacks by militants

BY KAREM FAHIM AND HEENA THOMAS

One day after an evacuation order, Egyptian army bulldozers began demolishing homes along the border with Gaza on Wednesday, the first step in establishing what officials say will be a buffer zone intended to stop the passage of militants and weapons across the frontier.

The evacuation of hundreds of homes, mainly in the border town of Rafah, started on Tuesday and was part of a sweeping security response by the government of President Abdel Fattah el-Sisi to months of deadly militant attacks on Egyptian security personnel in the Sinai Peninsula, including the massacre of at least 33 soldiers last week.

That assault, on Friday, was the deadliest on the Egyptian military in years, and a blow to the government, which has claimed to be winning the battle against insurgents. Mr. Sisi, a former general, spoke of a "completing" facing the state, though prosecutors have not yet identified any suspects.



**Protest in Hungary** Thousands of demonstrators held up mobile phones as they crossed the Danube in Budapest on Tuesday to urge the right-wing government of Prime Minister Viktor Orbán to drop a proposed tax on Internet use. The protesters say the bill would choke off access to information not controlled by the government. PAGE 7

## Fed declares victory with an end to bond buying

WASHINGTON

Program seen as success for U.S. economy may be hard for Europe to mimic

BY BENJAMIN APPELBAUM AND JACKEWING

An upbeat Federal Reserve, citing the strong performance of the United States economy, said on Wednesday that it was ending a bond-buying stimulus program widely credited with getting America back on its feet after the global financial crisis.

It is a program that the European Central Bank might like to emulate — if only it could.

The Fed said the bond-buying program had served its purpose by contributing to a stronger job market, which it said on Wednesday was continuing to improve. But seeking to reassure global financial markets, the Fed said it still planned to keep their short-term interest rates near zero for a "considerable time."

The Fed's decision, which had been anticipated, was greeted with calm on Wall Street, with major indexes falling slightly after the announcement. Against the big European economies, Britain has pursued its own version of the

**Figure 0.1**

Protestors point mobile phones at author's drone.

technology. Our drone didn't take the picture, it *made the picture possible*—it directed eyes and mobilized action (figure 0.1).<sup>1</sup>

The moment was both invigorating and symbolic. It was invigorating for the same reason like-minded people have engaged in collective action over the centuries: collective identity, collective effervescence, solidarity, and a desire to see things change. It was symbolic because it represented an early example of how new technologies enter public space and change politics in the process. Hungarian civil society groups had used social media sites to mobilize on the streets in real time against a threat to the Internet. Once on the street, they raised their digital devices toward a new witness to the entire affair: a small quadcopter that captured footage to be uploaded to the Internet

the following morning, complete with a DJ Shadow soundtrack and a call to further action.

That event was one of several, as emboldened crowds saw in our videos something they didn't see in the local newspapers.

Themselves.

The event was also symbolic because of what the crowd was protesting. Victor Orban, the Hungarian Prime Minister, had proposed a tax on the Internet that would have had a broad economic impact on all Hungarians, not just the usual gang of citizens who protested his anti-liberal agenda. As a result, grandmothers marched next to parents with strollers, and business owners and anarchists stood side by side, unified in denouncing his plan. The crowd underscored a point made by the sociologist Francesca Polletta: new technologies (and attendant public policies) create new reasons to protest.<sup>2</sup>

These protests attracted the international media. They also got the government's attention. In the face of this surprisingly strident display of solidarity and determination, Orban caved, the policy was abandoned, and the movement declared a victory. Later, Tautis did the math. He estimated that about 60,000 people took to the streets, virtually 3.5 percent of the city's 1.7 million residents.

While it may not sound like much, 3.5 percent is actually a magic number. Conflict theorists Erika Chenoweth and Maria Stephan contend that protestors' demands are met when they are both large and nonviolent.<sup>3</sup> How large do nonviolent protests need to be? Drawing on an impressive array of data, Chenoweth and Stephan suggest about 3.5 percent of a population on the streets, nonviolently, usually does the trick.

## **CIVIL SOCIETY TECHNOLOGY: BEYOND SOCIAL MEDIA**

I wrote this book out of fascination and frustration. Original fascination with our ability to support social movements on the street gave way to frustration with the lack of theoretical resources in social movement theory and the skepticism of some of our movement allies on the ground.

As a result, the core argument in this book is simple: technology matters for politics, and it matters in important but overlooked ways.

Our use of drones to document the size of protests is but one example of a growing wave of prosocial experimentation with new technology. In this volume, I focus on the way new tools are used by social movements, in particular, and civil society more broadly. Was there anything new about the way Tautis and I used our drone? Many great books have been written on the promise and peril of social media and the Internet. A fresh wave of thinking directs attention to wearable tech, artificial intelligence, and computational propaganda.

Our thinking about drones, in contrast, is a bit hazier, to say nothing of other technologies that lie beyond the new digital technologies of social media. This is a pity, as drones and other robots are showing up in all sorts of places.

But what are all these new devices doing? If you listen only to my good friends in the human rights world, the answers are chilling: drones represent a new wave of technology threatening civil liberties, violating privacy, and disrupting terrestrial approaches to security. New scholarship on these anti-social phenomena is growing at a rapid pace.<sup>4</sup> This book is about a

quite different range of uses, with a lopsided emphasis on those that offer a clear public benefit.

That evening in Budapest left me with some nettlesome questions about how seriously we take this technology, so I spent the last few years gathering data on how drones are used, training civil society groups on the use of balloons and drones, collaborating with a research team at the University of Nottingham focused on the use of satellite data to document human rights violations, strapping GoPro cameras to 3D-printed gimbals on kites and balloons, and working with engineering and peace studies students to build and fly drones of their own.

Along the way it became clear that a whole spectrum of technology doesn't fit neatly into the contemporary conversation about "new media" and high-profile communication technologies like mobile phones. In my home field of social movement studies, we tend to focus on those moments when change agents identify things that are wrong with the status quo, frame those issues as problematic and change-worthy, then pressure those with power and authority to take action.<sup>5</sup> In countries like the United States this pressure can take the form of a boycott against a company that tests their products on animals or a campaign to pressure a politician to vote a certain way on environmental legislation. Growing attention is being paid to technology's role in these efforts. A boycott that was once facilitated by an important organization like Oxfam, Amnesty International, or Greenpeace might now be mobilized online and framed by a hashtag. Pressure on policy makers might have once come from a phone call, but can now come in the form of online campaigns and petitions. Scholars of politics, culture, and social change

have spent considerable time exploring the impact of the new digital technologies that are critical to political communication.

We mustn't stop there.

In this book, I highlight technology's political impacts *before* and *beyond* social media.

The more time I spent reading about the role of technology in civil society, and particularly efforts focused on social and political change, the more I was struck by the dominant role social media plays in these narratives. Having joined many others in scraping Twitter data during the 2009 #Iranelection, I was happy to see so much attention focused on the role of social media in mobilization and communication. Certainly, efforts to describe the utility of new digital technologies in political communication received a significant lift after the Arab Spring. I'm certainly not the first to focus on how civil society uses technology. My fellow travelers in social movement studies have spent some time thinking about the impact social media has on political mobilization, and their analysis of these relationships have hewed to one of four broad approaches.

The first is to ask fresh questions about technology's greater impact on the formation of collective identities in creating a sense of *we*-ness. People get involved online because they hope their voices will be heard, and see opportunities to come alongside others who feel the same.<sup>6</sup> Networks of websites helped create this feeling in a pre-social media era,<sup>7</sup> and properly configured digital spaces, including video gaming environments, can have the same effect.<sup>8</sup> New studies show that a younger generation of feminists found one another online, for example. As a result, networks grow and deepen, create community, and expand opportunities for future offline mobilization.<sup>9</sup>

The second is to emphasize the possibility that new technologies may help solve the kind of collective-action problems that have occupied near-continuous scholarly attention since the economist Mancur Olson first raised the puzzle in 1965: why do people choose to volunteer for social causes, especially if there's nothing "in it for them"? New studies emphasize the extent to which digital technologies lower the cost of coordinating and communicating.<sup>10</sup> Mobile phones, for example, help people spread information about important issues and help coordinate social and political action.<sup>11</sup>

A third approach to technology and politics emphasizes the extent to which engagement with technologies themselves create new political, economic, social, environmental, and legal realities. These include emergent online spaces for connection and collaboration around everyday projects, but also make room for politics, whether it's quotidian or disruptive.<sup>12</sup> New public practices are created by the routines that emerge organically out of persistent connective collaboration.<sup>13</sup> All of this engagement also creates new issues that themselves become sites of collective action—in other words, the Internet creates new reasons to get involved in contentious politics.<sup>14</sup>

The fourth broad approach to explaining the relationship between new digital technology and collective action is to call into question the findings of each of the three preceding clusters. Digital power is a two-way street, as states are often better equipped to harness innovation than are civil society actors. The result is a power disparity that distinctly disadvantages the public, or, even worse, sends civil society actors in the altogether wrong direction as they pursue *technological solutionism* and *Internet centrism*—an extreme version of the old adage *when all*



*you have is a hammer, every problem looks like a nail.*<sup>15</sup> When all you have is a mobile phone, this line of thinking suggests, the solution to every social, political, or economic problem looks like an app. State and corporate power, in this light, is amplified rather than diminished by new techniques and technologies. Scholars of civil society ignore this broader fact at their peril.

If the benefits of quickly capturing and rapidly disseminating information were made clear in recent struggles for democracy in the Middle East and North Africa, the peril of poor quality control of this information has been on stark display in presumably settled democracies. This is clearly seen in the campaign that led to the election of Donald Trump in the United States and the attendant rise of algorithm politics and computational propaganda.<sup>16</sup> Not only does social media hold both promise and peril, we are now realizing, but its functions are underwritten by a range of invisible technologies—from algorithms to server farms—that are now the focus of public concern as well as scholarly analysis. I hope this book complements important new work from scholars exploring digital politics,<sup>17</sup> digitally enabled social change,<sup>18</sup> the logic of connective action,<sup>19</sup> hybrid media systems,<sup>20</sup> and the bits and atoms of technology,<sup>21</sup> each of which are discussed in greater detail in a theoretical afterword to this volume. I build on this prior work to advance a simple argument: technology plays a larger role in civil society than simply creating new social networks through social media.

Our experience in Budapest is a case in point. Tautis and I used a drone to generate a video released on Vimeo and shared on Facebook and Twitter. I had no trouble finding scholarship on the importance of networked publics<sup>22</sup> or rival advocacy networks<sup>23</sup>—that is, smart thinking about what we went on

to do with the footage—but scholarship on the politics of the drone technology itself was harder to come by. What exactly are drones an example of? They are a new surveillance tool, clearly. But they are also an ideal platform for conducting citizen journalism and engaging in humanitarian interventions.<sup>24</sup> Drones are a new form of transportation infrastructure, but are also deployed as autonomous airborne Internet service platforms. Thinking narrowly about technology as a synonym for social media does not take us far if we need to think critically about tools that have so many different applications and implications. In this volume, a focus on communication is a necessary but insufficient condition if we want to understand the politics of technology and the technology of politics.

So what of technologies for social change?

Collective-action efforts in civil society rely on key organizational and infrastructural capacity. These efforts also include a growing constellation of tools for gathering and analyzing data—both bits *and* atoms matter to civil society.<sup>25</sup> This fact requires a broader way of thinking about the relationship between civil society and technology. The first step is to better situate the role of communication within a larger technological landscape. Message creation, reception, and interpretation are not the be-all and end-all of technology. We also use tools to warehouse and transmit data, for example.<sup>26</sup>

This is important to note, as the amount of web traffic between machines outpaces the volume sent or received by humans, meaning computers are talking to one another at higher rates than humans are. Within my home domain of social movements, communication is important for gaining public acceptance and raising the cost of the status quo, as the case of

naming and shaming a corporation clearly demonstrates. When social movements want to make a difference, they create posters, websites, and hashtags to communicate their demands. But they also do whatever it takes to make old practices too expensive to maintain. This is the logic behind lunch-counter sit-ins during the Civil Rights era, die-ins during protests against the US invasion of Iraq and Afghanistan, and the creation of barricades to thwart authorities during the Paris Uprising, romanticized in *Les Misérables* in the figure of Inspector Javert.

This book unpacks the relationship between these struggles and technology writ large. Such a project requires thinking in much broader terms about what counts as technology. It also requires importing some concepts from distant scholarly lands. To be blunt, research for this book pushed me out of my academic comfort zone and into a bit of a walkabout with folks thinking about infrastructure, art, architecture, the history of science and technology, human-centered design, ethics, and engineering—all the while doing my best to remain focused on what I really care about, which is how technologies shift the balance of power—however modestly or temporarily—in favor of the people.

The focal point, then, is that interplay between technologies and civil society, as well as its impact on politics. By *civil society* I simply mean those *activities, institutions, and spaces that are separate and independent of both the state and the market*. Such a broad approach turns our attention to the political life of technology, since new tools change what we think of as public space—creating new public spheres. Several of the cases in this volume represent *collective challenges to systems or structures of authority*, as clear a definition of social movement as there ever was.<sup>27</sup>

I wrote this book out of a conviction that technology plays a larger role in advocacy and social change than just capturing and distributing moving images. In my last book, *What Slaveholders Think*, I explored the impact human rights campaigns have on feudal socio-economic relationships. In particular, I focused on how contemporary slaveholders respond to grassroots challenges to their authority. The stories that people told me were rich with technologies of all sorts—mobile phones alerted once-disconnected workers to new opportunities in nearby cities, new stone crushers reduced demand for workers, and farm implements were occasionally used in violent uprisings. New digital technologies matter, but so do technologies that are decidedly old, or that have nothing to do with communication. A few years back my partner—an international aid worker—was a few days late in her arrival to Tanzania, where we lived at the time. She had been delayed in Ethiopia’s hinterlands by anti-government protestors who had blocked the road with large boulders. In that particular context, a blocked road was the tactic preferred by those struggling for change. Half a world away, an American collective called Public Lab sells basic science kits so grassroots environmental activists can gather their own data about environmental and health conditions in their area. This citizen science is a form of public engagement that challenges the hegemonic grip official science has on the gathering and interpretation of facts.

What follows is my attempt to take each of these technologies seriously. What do a drone in Budapest, a new stone crusher in rural India, boulders in Ethiopia, and a petri dish in Flint, Michigan, have to do with one another? In this book, I suggest one possible answer: collective-action efforts use tools and technologies

to get their jobs done, and this use and those tools are far broader than anticipated by a narrow focus on *new digital technology*.

In the next chapter, I will suggest that the notion of a public sphere allows us to better recognize civil society's important connective components while also pushing out how we consider technologies' spatial implications. Digital technology has democratized important social, political, and economic activity, enabling individuals or groups to do things that had previously been the remit of states and large corporations.<sup>28</sup> For example, a host of tools for citizen science are available at PublicLab.org, allowing people from all walks of life to test their air and water, and in so doing to produce counter-hegemonic data about the environment. While it is beyond the purview of this study, science itself is a site of contentious knowledge.<sup>29</sup> Social change efforts regularly draw on technology. They always have. *New digital technologies* play an important role in politics, but are only one piece of a much larger puzzle.

## TOOLS AND TECHNOLOGIES

Social change advocates use technology to raise awareness and connect people. Technology is also used to make the status quo too expensive for movement targets, or to gather and analyze data on important social, political, economic, or environmental events, or to simply catalog and archive raw data for future analysis. If we want to better understand and document the way technology gets used for politics, then we must start with a clear and scalable definition of technology.

In this book, I adopt a simple conceptualization of tools and technology as *objects in use*, whether they are digital or ana-

log, physical or virtual, or used by human or nonhuman folk.<sup>30</sup> A focus on use is meant to direct our attention to the humble everydayness of the tools that comprise so many of our collective efforts, as well as the importance of protest slogans, codes, algorithms, bugs, and viruses (both biological and digital). This definition includes participatory objects, settings, devices, and other “stuff” that acquire explicit political capabilities through their use.<sup>31</sup> Technology—what Langdon Winner has called “all practical artifice”<sup>32</sup>—is stuff that becomes politically, socially, personally, and economically useful when we put it to use.<sup>33</sup>

Do we need complicated definitions in order to understand the world around us? Most readers know that the answer is *no*, but academic readers might need a bit more convincing. In recent social science, “the overwhelming focus has been on texts, the industry that produces them, and the viewers that consume them. As a result, the materiality of [media] devices and networks has been consistently overlooked. . . . The headlines are examined but not the newsboys who shout them, the teletypes that clatter them out, or the code that now renders them into clickable hyperlinks.”<sup>34</sup> This critique, leveled against media scholarship by Tarleton Gillespie, Pablo Boczkowski, and Kirsten Foot, is broadly relevant, as technological changes require better theories.<sup>35</sup> My goal in this volume is to remedy this oversight by pointing to technologies before and beyond social media.

I have clustered each of the following chapters according to the work I believe them to be doing. Chapters 1 and 2 introduce the book’s key ideas. Chapter 1 defines key concepts and advances a number of testable hypotheses relating to technology’s “emergent and disruptive” use. This chapter positions the

entire project within broader academic conversations, and the non-academic reader may be advised to skip the first chapter entirely. The second chapter provides a sociopolitical history of the kite, the balloon, the satellite, and the drone, arguing these “geospatial affordances” have played a role in expanding the public’s capacity to bear witness to important issues ignored by states and markets.

Chapters 3, 4, and 5 detail a number of interventions that these ideas make possible. Chapter 3 provides case studies of drone use, exploring whether they are emergent or disruptive, and in this way tests some of the book’s key ideas. Chapter 4 responds to the book’s central call for studies that take the politics of technology seriously, and in a case study of the camera—*rather than the image*—emphasizes a few of the puzzles that emerge from a focus on technology’s politics. Chapter 5 explores how drones are used to resist the status quo, while surveying the legal and physical techniques used to resist drones.

The final section of the volume focuses on the implications of these ideas and interventions. In this sixth chapter, I extend some of the book’s key arguments to a broader range of cases, in this way testing their portability to other contexts. Perhaps helpfully, the volume also includes a theoretical afterword, in which I take a deeper dive into some of the academic conversations this book draws from and contributes to.

I hope to leave the reader with a strong sense that technologies play a broader role in social and political struggle than is indicated in studies that focus on Twitter, the Internet, and Wikileaks. Those are important, but they are part of a larger constellation. It is to that broader space we now turn.

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# The Good Drone

## How Social Movements Democratize Surveillance

By: Austin Choi-Fitzpatrick

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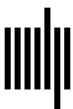
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