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Free the Data from the Birdcage: Opening Up Data and Crowdsourcing Activism in Taiwan

This article examines Campaign Finance Digitization (CFD), a data initiative launched by the civic hacker community g0v (pronounced gov zero) in Taiwan. How do data trigger activism even before "facts" are known? This initiative crowdsourced xiangmin (netizens) to transcribe campaign finance reports from physical documents to digital datasets so as to bring transparency to the bribery and corruption in politics in postauthoritarian Taiwan. The crowdsourcing technology used by CFD harnessed an assemblage of humans, machines, codes, and signals around the data; turned this gathering of human and nonhuman actors into a political movement; and used the information as process and political practices. The political significance of CFD lies not in the "facts" produced from the data but in the collaborative practice of opening up the data. With mass participation, the data moved beyond the descriptive form of representation to produce a new type of digital participatory citizenship. [data, digital activism, hacking, crowdsourcing, participation, Taiwan]

"Free the data from the birdcage!"[1] This is the slogan of the online initiative Campaign Finance Digitization (CFD) that caught my attention on Facebook. On April 19, 2014, g0v (pronounced gov zero), a civic hacker community based in Taiwan, launched CFD, which aimed to release campaign finance reports that were locked away in government offices. In Taiwan, political candidates and parties are required by law to report donations and campaign expenditures to Control Yuan, a government investigatory agency, yet these reports are not released publicly. The CFD considered the campaign finance reports as evidence of corporate political ties that people in power wanted to hide, so the project's mission was to "rescue" the reports and make them "open data" online before the elections scheduled for the end of 2014. The aim was "bringing sunshine"— referring to Taiwan's Sunshine Acts—to *heijin* (black gold) politics—the complicated interpersonal network of politicians, gangsters, and businessmen established through bribery and crimes in postauthoritarian Taiwan. Thus, a few g0v hackers built a crowdsourcing website and invited *xiangmin* (netizens) to join their action.[2] Their call for action went viral overnight:

> Campaign Finance Digitization invite netizens to join the battle with keyboards. Join us to digitize campaign finance reports, which were previously kept in Control Yuan, into "real open data." We aim to hold the government transparent and accountable by building an online database for the public to search and examine these reports.[3]

Thanks to thousands of shares, numerous xiangmin flocked to the website, contributing their tea breaks or lunch hours to transcribe scanned reports into bits and bytes. Within only twenty-four hours, over ten thousand xiangmin had digitized three hundred thousand

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campaign finance records. "Free the data from the birdcage" stormed the internet to become a movement overnight.

The CFD provides an interesting example of how to think about data differently. While data are seen as something raw that needs to be collected so as to reveal facts, CFD turns data into process and political practices. I examine this data initiative to ask how campaign finance data triggered political action even *before* they showed "facts." On the surface, it seemed that g0v hackers and xiangmin participated in CFD because they believed that the data they opened up could reveal hidden political facts. There was an assumption that campaign finance data are objective and factual, and they can hold the government and politicians accountable. However, a closer look at this initiative reveals that the data were not simply uncovered but also underwent a series of transcription processes. This forged different assemblages that then mobilized activism. Here I borrow the concept of "assemblage" from Anna Tsing's work to attend to "how gatherings sometimes become 'happenings,' that is, greater than the sum of their parts" (2015, 23). I argue that the crowdsourcing technology used by CFD harnessed an assemblage of humans, machines, codes, and signals around the data, and turned this gathering into a political movement. With mass participation, the data were able to act beyond the descriptive form of representation to produce a new type of digital, participatory citizenship. In other words, the power of campaign finance data did not come from *what* they revealed but from *how* they were assembled. In following the footsteps of this particular set of data, I go beyond the debate of data objectivity to show how data urge people to see and believe, and to feel and act. Most importantly, I show how data make politics.

Digital activism became an essential form of social movements over the past decade. Scholars discuss how digital technologies provide tools for political mobilization, and how the internet offers new ways to channel people's affective power into political actions, which Manuel Castells calls, in the title of his book, "networks of outrage and hope" (Castells 2012; see also Bonilla and Rosa 2015; Hands 2011; Juris 2008; McCaughey 2014; Wolfson 2014; Yang 2009). Most of these studies focus on movements provoked and enabled by social media platforms such as Occupy Wall Street, the Arab Spring, and the #MeToo Movement. Unlike traditional social movements, these protests broke out not as well-planned actions but as decentralized guerrilla warfare—without a command center and rigid organization. More than networking protests, digital activism shows a radical face through hacking and data breach. Studies of Anonymous and WikiLeaks reveal how trolls and pranks blur the ethical line of activism yet also open a space for dissent (Brown and Wong 2013; Coleman 2014; Ravetto-Biagioli 2013). One key feature that distinguishes radical hacktivism from networked protests is that the former requires technological expertise. While the power of networked protests comes from the sheer number of loosely organized, nonskilled participants, technological expertise is essential to radical hacktivism; and oftentimes a few hackers can ignite a cyberwar. In between networked protests and radical hacktivism emerges a new approach of digital activism, which Andrew Schrock (2016) coins as "civic hacking"—a form of alternative/activist media that uses data and other technological tools to empower citizens and to challenge dominant power structures. As one among the proliferating genres of hacking (Coleman and Christopher 2017; Coleman and Golub 2008), civic hacking applies hackers' techniques of repurposing technologies to politics and translates social problems into codable tasks (Ermoshina 2018). The digital collaboration between technological experts and citizen volunteers is central to civic hacking. As I show in this article, while g0v hackers played an important role in initiating CFD, it was the grassroots, mass participation of citizen volunteers that turned this action into a movement.

This article draws on my fieldwork research with g0v from 2014 to 2018. During this time, I attended g0v meetups and hackathons in Taipei, engaged in their online conversations on a daily basis, conducted dozens of semistructured interviews, and had numerous informal chats with many of the hackers. As anthropologists Daniel Miller and Don Slater (2000) suggest, digital ethnography sees the digital as sociotechnical practices in ongoing and embodied encounters with the technologies instead of treating the internet as a self-enclosed cyberian apartness. Instead of viewing online and offline as distinct spaces, in this article I follow the movement of data as they travel between different mediums in the network of humans and machines.

The Politics of Data

According to historian Daniel Rosenberg (2013), the term data emerged in the seventeenth century to refer to the constellations of information produced through scientific observation and experimentation, along with the concepts of knowledge. In the process of knowledge production, data function to "identify that category of facts and principles that [are], by agreement, beyond argument" (20). The idea is to let data speak for themselves. Such belief in data embraces mechanical objectivity (Daston and Galison 1992), which becomes an ethical guideline in modern science. However, as Steven Jackson and David Ribes (2013) note, data are neither objective nor out there to be discovered. Data must be generated through a careful design of experiments and interpreted under a shared language to *re*-present facts. Even after data are generated, they continuously demand care—to maintain databases, to keep a record of changes, to ensure no data loss or corruption when transmitted, and so on. All these activities—imagining, designing, interpreting, maintaining, and repairing—call for a specific way of understanding—that is, a knowledge system—and a worldview in which data are deeply embedded.

Thanks to computer science advancement in the mid-twentieth century, data have been given a new, electronic life. As public and private lives move more and more online, the virtual traces people leave behind produce "data doubles" that fuel what is called a "big data" boom. Data are now used widely to show patterns, map profiles, and predict trends that enlarge people's understanding of the world, but they also permeate everyday life and substitute our independent thinking with algorithmic options (boyd and Crawford 2012; Cheney-Lippold 2018). While data make our decisions better informed and our lives more efficient, they can also be used to manipulate our beliefs and desires (d'Ancona 2017). Even worse, they can become a weapon of surveillance, or, to use Rita Raley's (2013) word, "dataveillance." Users' online data is continuously monitored "for unstated preset purposes" (Van Dijck 2014, 205). Gilles Deleuze (1992) insightfully reveals that data facilitate a control society in which a numerical language turns individuals into "dividuals," masses, samples, data, markets, or banks.

Data have always been political. Reflecting on Jacques Rancière's thesis of photography's representational aesthetics, Alexander Galloway (2011) turns to data visualization and asks if data adequately represent the control society Deleuze describes, and if data representation provokes affective responses. Rather than asking if data are truthful, he questions both the aesthetic and ethical interpretation of data. Galloway comes to a rather pessimistic conclusion: "The problem is that adequate visualizations of control society have not happened. Representation has not happened. At least not yet" (95).

This article responds to Galloway's argument. While I agree with him that what matters is how data affect and mobilize instead of what they reveal, I argue that data's effective power does not just derive from their visual representation. Instead, the case of CFD shows that data can affect and mobilize even before they are represented and visualized. Indeed,

visualization is only one small part of opening up data. To understand the power of data in mobilizing action, I suggest seeing data not as an object but as a practice to examine how data are generated, interpreted, and cared for; who engages in this process; and what impacts they make throughout the process.

Join the Battle with Keyboards

I first noticed CFD's call for action when I read the Facebook post I quoted earlier. Curious about what "joining the battle with keyboards" could do with campaign finance, I followed the link to its website.[4] A big headline welcomed me: "Please type the number, the character, or the date shown in the image." Below were a scanned image and an empty box. In reading the instructions, I learned that these images were segments of campaign finance reports submitted by candidates standing for election to Control Yuan. Because Control Yuan refused to publish these reports online but only allowed people to read them in their office or pay to make physical copies, most citizens could not access these documents. And the reports were certainly not used to hold candidates accountable. Hoping to unravel the corporate political ties behind these politicians before local elections took place in November 2014, g0v hackers built this crowdsourcing website to collaborate on digitizing these reports. On the website, I typed and submitted my answer. To my surprise, the number indicating the remaining undigitized images suddenly decreased by a dozen. There were also others submitting answers at the same time, I thought. Feeling motivated by the invisible companions, I typed a few more answers, and the remaining number decreased quickly. When I went back to Facebook, the post had been shared over three thousand times. Comments to the post included: "The xiangmin government is way more efficient than the ROC [i.e. Taiwan] government!"; "I cannot stop this typing game."; "Let's fight together! I won't sleep before I submit ten thousand answers."[5]

The developers of CFD are hackers belonging to a Taiwan-based civic hacking community, g0v, a name that replaces the letter *o* in "government" with the number *0* to indicate its grassroots, digital-based activism. Born out of the Free and Open Source Software movement, g0v translates the idea of openness from technologies to politics. Upholding the idea of *keifun xiezuo* (open collaboration), g0v hackers have been gathering online (via various social platforms) and offline (at bimonthly hackathons) to "code for a social change" since its founding in December 2012.[6] "Don't ask why *meiyouren* (nobody) is doing this, you are the meiyouren" is g0v's motto. Meiyouren, literally meaning "nobody," upholds early hackers' hands-on imperatives, which prioritizes actions to words (Levy 1984). Meiyouren is both a call for action and the becoming of an actor. Connected by the idea of meiyouren, g0v hackers carry out political intervention through two interlocked ways of hacking. One is that they hack the government by repurposing government data and building new tools to promote civic engagement. The other is that they hack governance by organizing themselves as a distributed network that resists representation and hierarchy. These are two sides of the same coin, reinforcing each other as g0v grew from a small community with only dozens of coders to a huge network that connects thousands of meiyouren from all walks of life.

Unlike traditional social movements, g0v has no formal structure or center of command. Instead of forming collective actions as done in a traditional organization, g0v is a platform in which people who acknowledge the meiyouren spirit can connect and develop various projects. It is difficult to have precise statistics on how many people participate in g0v since it has neither membership nor a fixed boundary. Some numbers, however, offer a clue. By August 2020, g0v's Facebook group, which serves as an information portal, had more than fourteen thousand members. More than eighty-three hundred g0v hackers chat

on its Slack channel, and over two hundred contributors push code to its GitHub repositories. Offline, g0v has held forty-one bimonthly hackathons, each with around one hundred participants, and dozens of taskforce meetups. These numbers indicate different ways to participate in g0v, and they are continuously growing. Most of the hackathon participants are between the ages of twenty and forty-five. In terms of occupation, diversity has increased over the years. In the first hackathon, over 80 percent of the participants were coders, but this number dropped to roughly 40 percent by the thirteenth hackathon, with 60 percent of netizens coming from various backgrounds, including designers, lawyers, nongovernmental organization workers, and civil servants (Cheng 2017). Hackathons are at the center of g0v's action. In one-day coding marathons, g0v hackers convene to pitch ideas, forge collaborations, brainstorm workable solutions, and exchange political thoughts and community gossip. It is where "hacking government" and "hacking governance" converge.

The CFD was born in a g0v hackathon, held on April 19, 2014. Earlier that year, members of a civil society group, No Nuke, approached Ronnywang,[7] a g0v hacker and data expert, with a ten gigabyte file of campaign finance reports they had printed and then scanned from Control Yuan. These reports carried rich information, but they were too huge to make sense. In the hackathon, Ronnywang pitched the idea of opening up campaign finance. He soon gathered a few hackers to brainstorm how to make these reports usable and useful. The first challenge they met was to transform these human-readable documents into machine-readable datasets so a computer could process them. "Let's use the power of enormous xiangmin to accomplish this task," proposed Ronnywang.[8] They then built a crowdsourcing website on which xiangmin were invited to digitize these reports.

Xiangmin are often criticized as "slacktivists" who hide behind computers, click "like" and "share," believe that they are active participants but, in reality, hesitate to take action or confront power for social change (Morozov 2012). However, by delegating the digitization task to xiangmin, the CFD turned xiangmin from slacktivists to "keyboard warriors" who can "save the nation by keyboards."[9] The collaboration between g0v hackers and xiangmin made the CFD possible: while g0v hackers built tools to make digitization a simple task, xiangmin formed an online army to digitize the huge number of reports. In an invited talk, someone asked Ronnywang why he chose not to use automatic tools to digitize these reports. Ronnywang first acknowledged that the watermarks on the scanned documents made automatic recognition difficult, but he went on to emphasize that what CFD wanted to do was to motivate as many xiangmin as possible to take action. Although digitizing the reports was the goal, achieving it in a participatory way was what made it a movement.

The CFD's ambition was more than digitizing the reports provided by No Nuke. In the short term, they wanted to build a complete database of campaign finance. In the long term, they aimed to push the government to revise the Political Donations Act and to release campaign finance reports online. To achieve these goals, they called for the forming of two "corps," with one visiting Control Yuan to collect more copies of reports, and the other contacting legislators to address the need of revising the act. These corps, instead of being organized centrally, followed the protocol document written by g0v hackers: they took actions individually and autonomously. The forming of these corps mimicked a popular Japanese manga series, *Attack on Titan*, which involves a fictional world in which humans live an easy and comfortable life within enormous walls to hide from the attacks of man-eating giants. Only a group of brave young soldiers are willing to fight the giants and search for the hidden truth beyond the walls. Imitating the tone of *Attack on Titan*, the CFD turned this cyber campaign into a battle of justice:

> On that day, people are reminded how infuriated they are to be manipulated by those in power and how enraged when data are imprisoned in the birdcage. Soldiers! Let's open up more data behind the walls and allow more citizens to supervise these giants and their hidden financial flows.[10]

The popularity of *Attack on Titan* among the younger generations in Taiwan helped the post gain many "likes" and "shares." The mimicry of this manga series made the CFD a game-like event, and turned xiangmin into heroines and heroes. Xiangmin found the meaning and passion through this analogy to take action and support the cause.

The CFD's mission was never easy to carry out because the administrative procedures of even obtaining the reports were complicated, and there were so many of them. This is not to mention the time-consuming process of printing, scanning, and digitizing. Given that it was monotonous and unpaid work, g0v hackers were not sure if xiangmin would join their action. Yet, to everyone's surprise, this digital collaboration between g0v hackers and xiangmin quickly became a huge success when more than two thousand reports were digitized on the first day. In the following few months, more xiangmin joined and reports from previous elections were also digitized. The small contributions of every xiangmin became surprisingly powerful when combined. Data scientists and journalists also took part, using the data to sketch politicians' business alliances, further increasing the CFD's impact. A belief in the power of data to reveal hidden facts brought together hackers, xiangmin, and journalists in opening up and analyzing the data.

Data Are Like Gravity

"Data are like gravity. They exert an attractive force to people and form a community around [them]," said Audrey Tang, a g0v hacker and the first digital minister in Taiwan, in an interview. In this section, I provide a close reading of how campaign finance data harnessed an assemblage of various actors through a series of transcription processes. "Transcription" is a concept that I borrow and adapt from the discussion on inscription and translation in Actor-Network Theory (Callon 1984; Latour 1986; Law 1992). It refers to the process of displacement, rearrangement, and codification data undergo from one medium to another. The concept of transcription allowed me to think about how technologies make social realities through their materialities and programs.

Every data entry in the CFD went through a long journey before it was opened up to the public. For example, when money was deposited into a candidate's campaign funds from a donor, a record of this political contribution was created in that donor's bank account, forging a political alliance between the two ends of the monetary flow. A few months after every election, following the Political Donations Act, an accountant assembled all these records and filed them in reports sent to Control Yuan. The reports turned campaign finance data into legal subjects governed by the state, and were matched, calculated, and examined for their legality. They were then locked away in a government building, and only a few experts, such as accountants and bureaucrats, looked at them.

Responding to the CFD's call to "free the data from the birdcage," some xiangmin voluntarily visited Control Yuan, requested these accounting reports, and printed out copies. The data were no longer restrained within a small circle of experts. Yet, as physical copies, they only reached few people. Volunteers then scanned these copies to turn them into digital images. A piece of computer program written by g0v hackers chopped these digital images into small pieces that they put on the CFD's website, where xiangmin were invited to

decipher their messages. This was the moment when the data finally entered the public domain. Xiangmin read these images on-screen and transcribed them into numbers using their keyboards. These pieces of information were then reaggregated as campaign finance datasets. Finally, after a series of transcription processes, campaign finance data were opened to the public on the internet.

During this long journey, data were printed, scanned, cut up, identified, labeled, and reaggregated via transcription using scanners, screens, keyboards, etc. Every process of transcription introduced different actors and formed a different social-technological network. Transcriptionists have "become mediators—that is, actors endowed with the capacity to translate what they transport, to redefine it, redeploy it, and also to betray it" (Latour 1993, 81). The CFD claimed to bring "transparency" to campaign finance data by making it "visible" via rendering, and the process was in transforming the data and the networks they connected.

The key to making the CFD into a movement was the crowdsourcing technology used in transcription—CAPTCHA. CAPTCHA is a computer test to determine if an online user is a human by asking that user to decipher distorted images of numbers and letters that a computer cannot read. This technology is often used to protect a website from being attacked by robots designed to spam, hijack, or disrupt normal access. Other than its security function, CAPTCHA is also used in digitization tasks. As a transcription device, CAPTCHA relies on mass participation and "the granularity of available tasks" (Bruns 2008, 20). The trick is to divide the entire job into small tasks so that everyone can contribute without the burden of an extreme workload. Through CAPTCHA, the CFD delegated the task of digitization to xiangmin, whose eyes and hands became transcription devices, turning the human-readable images into machine-readable datasets.

In g0v, this crowdsourcing technique is called *fenshen fashu*, which literally translates in Mandarin as "chopping firewood with clones." Data are described by g0v hackers as *chai* (firewood), because the metaphor of firewood symbolizes both the rawness of data and their potentiality to ignite action. A government website full of information is *haochai* (good firewood). The act of programming web crawlers to scrape contents from websites is *kanchai* (chopping firewood). If the amount of data on a website is large, they will organize *futou bang* (axe gang) and collaborate on fenshen fashu. *Fenshen*, a mysterious, supernatural skill of cloning oneself, becomes a metaphor of collaboration. Fenshen not only highlights the magical power of this hacker community but also implies its "rhizomatic network" as one is many, and many is one (Deleuze and Guattari 1987, 6). Nevertheless, to g0v hackers, fenshen is neither a supernatural power nor a philosophical theory but a collective action enabled by crowdsourcing technologies like CAPTCHA. As realized by the CFD, fenshen fashu meant that participants contribute only a small part of their time and effort, but together they achieved a tremendous goal.

Although I have been emphasizing the process of data transcription, I do not mean that the data opened up by the CFD were intentionally manipulated or that the data were not trustworthy. What I am proposing is to suspend *what* were seen as "facts" in data and look instead at *how* they were constructed through data. The data were never raw and untouched. An examination of the transcription processes shows that the data took various forms and forged different relationships around them. The participatory action of digitization facilitated by the crowdsourcing technology was when the data turned into a political movement. It was during this transcription process that human and nonhuman actors were organized and activated. In other words, data activism did not happen *after* the data were opened up but happened *at the very act* of opening up the data.

Bring Sunshine to the Sunshine Acts

The CFD was said to "bring sunshine to the Sunshine Acts"[11] when the latter failed to make campaign finance data easily accessible to the public. Taiwan's Sunshine Acts stipulated that candidates had to report campaign financing to Control Yuan, but these reports were then locked away until someone filed an application and paid an administrative fee to copy them. As noted earlier, it is not surprising that only a few people learned the stories behind these reports before the launch of the CFD. The g0v hackers argued that these reports belonged to the public as they could hold politicians transparent and accountable, but bureaucratic procedures and fees limited their accessibility and thus hindered public access. The mission of the CFD was to rescue the data from being confined by Control Yuan and to shed light on the invisible relationships between businesses and politicians. This would empower citizens in the fight against black gold politics. A rhetoric of transparency underlines this data activism.

Democracy and popular elections have a short history in Taiwan. Having experienced Japanese colonization (1895-1945) and the following martial law under the Kuomintang (KMT, or Chinese Nationalist Party; 1949–1987), Taiwanese people only started to enjoy the freedom to organize political parties and to vote in 1987. Because popular elections did not come easily, people were enthusiastic about them. Blending with a culture of *guanxi* (interpersonal relationship based on gift exchange; see Smart 1993; Yang 2002), elections in Taiwan were full of bargaining and under-the-table deals. Taiwan was notorious for heijin politics. The former longtime ruling party, KMT, used to consolidate its power through secretive alliance with gangs and illicit exchange with enterprises, while the largest opposition party, the Democratic Progressive Party, which first took office in 2010 and again in 2016 and 2020, was also plagued by corruption scandals. Rumors and conspiracy stories about campaign finance abounded and covert monetary flows influenced election results.

A crucial year for Taiwan's democratization was 2014. It was a year filled with ambitious social movements and passion for local elections. In March and April, supporters of the Sunflower Movement occupied Legislative Yuan and its surrounding areas, igniting one of the biggest mass protests in Taiwan's postmartial law era. Upset by the hasty passing of the Service Trade Agreement with China, protesters demanded *gongkai touming* (openness and transparency) in reviewing and renegotiating the trade pact, clause by clause (Ho 2015; Lee 2015; Rowen 2015). Although g0v was not the leading actor in the movement, it shot to fame with its high-tech capabilities. For instance, a few g0v hackers quickly set up a fast internet connection linking the protesters inside Legislative Yuan with those outside in the occupied area. They also built an online platform for protesters to coordinate actions and supplies. The Sunflower Movement stormed Taiwan and gave birth to a generation of *jueqing* (awakening youth), who envisioned open and transparent politics against the corrupt, malfunctioning bureaucratic government.

At the same time, mayoral and council campaigns were being staged for the upcoming elections at the end of November. The occupation ended with no clear promise by the KMT government, so the elections became a new political arena for activists to push their demands of openness and transparency. Even candidates were now using "openness and transparency" as their slogans of reformation. In g0v's hackathons following the Sunflower Movement, projects about government transparency and fair elections doubled. This included building a website to provide a voting guide that revealed candidates' past sponsored bills and political donations, collecting cases of corruption, and placing them on the website for voters to inform themselves. It was against this background that the CFD started its mission to open campaign finance data.

The CFD's call for action started on April 19, 2014, shortly after the end of the Sunflower Movement. It soon opened up the data of the candidates running for mayor in five municipalities, and urged the KMT to amend the Political Donations Act by the end of 2014. The amendment stipulated that campaign finance reports must be published online, but it was long delayed for legislative consideration. In 2017, with the amendment going nowhere, a longtime g0v hacker Hcchien and his news team at the media outlet Mirror Media relaunched the call for action as CFD 2.0. Xiangmin arose again. In June 2018, five months before local elections, the amendment was finally passed, but this was not the end of the story. In April 2019, Ronnywang, CFD's main developer, decided to run for legislator in the 2020 election. Knowing that it was unlikely for an amateur politician to win the election, he made his purpose clear: "I want to learn more 'know-how' behind political donations and make this process open."[12] Having hacked into government data, the hacker was moving a step forward and hacking into the political system.

Information Wants to Be Free

Projects run by g0v cover a wide range of topics, from government supervision to labor issues to environmental protection to food justice to fake news, and more. Regardless of the topic, information transparency is always the pivotal point. As the g0v manifesto states:

> Built on the spirit of the open-source community, g0v stands for freedom of speech and information transparency. We aim to use technology in the interest of the public good, allowing citizens easy access to vital information. Opening up and making data public allows the people of Taiwan to take a closer look at politics and important issues. This gives them the tools needed to evaluate their government and exert their democratic right to decide how politicians act.[13]

This manifesto clearly illustrates g0v's belief in the power of information to bring forth government transparency and accountability.

In 2012, the Taiwanese government released a forty-second commercial for its upcoming policy known as Power-Up Plan for the Economy. The commercial told viewers, "A few words cannot explain this complicated policy……Many things are speeding up now. Actions speak louder than words. Economy first. Let's do it!"[14] Lacking any substantial information, the commercial only stressed how complicated the plan was and asked for the people's trust. Soon after, a report uncovered that this commercial cost nearly NT$5 million. Clkao, Tkirby, and two friends were preparing their project for Yahoo Open Hack Day, a twenty-four-hour hackathon contest, when they saw this commercial. Infuriated by it, they made a last-minute decision to change their project subject from online window shopping to government budget maps. They presented an interactive government annual budget, so that budget items were translated into the prices of lunch boxes, bubble tea, space travel, Dibao (the most expensive mansion in Taipei), and so on, and invited citizens to review and rate them. "Government Budget Maps" received honorable mention from the contest, which included NT$50,000. With this money, Clkao and Tkirby hosted a hackathon on civic-related issues in December 2012, which became the first g0v hackathon.

To g0v hackers, information transparency is not simply a means to an end; pursuing freedom is information's nature. They uphold the idea that information wants to be free. In an interview about what data should be open and ethical concerns, PM5 said:

> It is humans who stop information from free distribution. Take the information about people with AIDS for example. The harm is caused by those who discriminate, not the information itself. Which information is harmful is a social

> matter and will change with time. This is why there is no absolute principle to decide which information should be open and which should not. Maybe in the future, when we no longer make a moral judgment on people's illness, all medical records can be opened up.

While PM5's argument is not to dispute the importance of privacy (in fact, g0v hackers are far more aware of data privacy than others), it reveals how he sees ethics as time- and context-sensitive variables associated with value-free information. Information is seen as objective while human interpretation leads to subjective judgment.

With strong belief in the notion that information wants to be free, g0v hackers are firm supporters of Open Government Data (OGD), a global trend emerging from the trajectory of Freedom of Information Act (FOIA) legislation and the big data boom in the past decade. FOIA safeguards citizens' right to government information to ensure government transparency and accountability. Taiwan's Freedom of Government Information Law was first enacted in 2005. The law, as most FOIAs around the world, does not detail how the government should publish its information. OGD advocates request government information released as machine-readable datasets, so that everyone can freely access, use, and share it online. They believe that OGD can promote government accountability and offer civil society organizations new channels to leverage advocated policies. At the same time, governments and international organizations, such as the Organisation for Economic Co-operation and Development and the G20, are also actively adopting open data policies, seeing data as a gold mine that has yet to be exploited economically. Civil society and governments thus hold very different agendas of what data to open up and how to open them up.

The g0v hackers make a clear distinction between *kaifang* (open) and *gongkai* (public). While public means to make the data known, open emphasizes the legal-technological framework to make the data known and usable. To make data open requires specific copyright licenses and sets of technological standards that allow machines to process them. From a legal perspective, open data should have an open license that grants free flow of information and unrestricted participation in using, sharing, and modifying them. From the technological perspective, open data should be available in bulk and use a format that is editable by nonproprietary software, so that there are no technical barriers in using the data. With these criteria, some common data formats are disqualified; for example, Portable Document Format (PDF) files are not editable and Microsoft Office files (e.g., Word, Excel) are proprietary formats, not open formats.

"Data are to be used, not to be read," Ronnywang said in an interview. Instead of simply advocating OGD, g0v hackers are both users and producers of OGD. They constantly scrape public information from government websites, turn it into open data, and utilize it to build tools to solve civic-related issues. For example, the Council Voting Guide shows councilors' sponsored bills and financial records for voters to make more informed decisions. AirMap visualizes Particulate Matter (PM2.5) data on a real-time map to raise people's awareness on air pollution. Labor Law Calculator turns different drafts of the Labor Law into an online calculator for workers to check which draft will benefit them most. The underlying idea is that data help people solve the conflicts caused by misunderstanding and lack of information. Every person can make their own judgment once they have been given sufficient information. "There must be something that data cannot solve, but if we can solve some basic disputes by showing people data, the rest of the work should be simple," said g0v hacker Nchild in our conversation on g0v and open data.

To g0v hackers, the idea of open data is more than technical; data are a communal project and a cultural practice. The CFD is not simply the crowdsourcing website or the database of campaign finance reports; it is the process of engaging data, people, and machines in political action. As CFD invites xiangmin to collaborate on opening up campaign finance data, it also encourages them to freely use the data to make infographics, conduct research, and produce news and reports. The CFD participants are both the producers and users—what Axel Bruns (2008) calls "produsers"—of the data. As with other produsage projects, such as Wikipedia, CFD engages in a communal and collaborative creation of shared content "in a networked, participatory environment which breaks down the boundaries between producers and consumers and instead enables all participants to be users as well as producers of information and knowledge" (21). Both the resurgence of xiangmin in CFD 2.0 and Ronnywang's campaign for legislator show that the CFD is "inherently incomplete, always evolving, modular, networked, and never finished" (22). Data are the temporary outcomes of this continuous process, and the political significance of the CFD lies not in the "facts" revealed in the data but in the collaborative practice of opening up the data.

Kregg Hetherington (2008), in his study of public documents in Paraguay, argues that transparency is an open relationship of representation and reality always under political negotiation. Transparency "produces citizens by extending the public sphere of deliberation about government through the circulation of information about government" (50). In a similar vein, Martin Webb (2012) reveals how middle-class activists in Delhi assist and thereby remake the urban poor "active citizens" by introducing transparency mechanisms such as Right to Information requests. This produces new political brokerage as these activists become expert mediators for the urban poor to engage the state. In the case of the CFD, the demand for transparency through open data extends the public sphere into the digital space. Physical documents are no longer considered transparent. Online open data have redefined the relationship between representation and reality, between the state and its citizens. Yet unlike Delhi's middle-class activists, g0v hackers did not mediate the requests of transparency. Instead, they built tools for the action to form. By inviting xiangmin to "join the battle with keyboards," g0v hackers helped produce a new form of digital, participatory citizenship in Taiwan.

Conclusion

Critical data scholars (e.g., Bowker 2005; boyd and Crawford 2012; Edwards 2010; Raley 2013) have discussed the politics of various types of data, for example biomedical, scientific, and social media. These data shape people's knowledge and affect their actions. Even more, they become tools of surveillance used to discipline and control ideas and bodies. While these studies remind readers that data are always about power and can never stray from politics, few studies directly deal with government data. The CFD offers a special case study that focuses on campaign finance data and their political implications. What makes this case interesting is that the data triggered cyber activism even *before* they showed facts. Setting its goal to "free the data from the birdcage," the CFD made a crowdsourcing call to invite xiangmin to transcribe campaign finance reports from physical documents to digital datasets, so as to open up the secret politics in postauthoritarian Taiwan. Not only did thousands of xiangmin join the action, but media outlets and researchers also contributed. The action eventually forced the government to revise its Political Donations Act in June 2018, requiring future campaign finance reports to be published online.

After carefully examining this data initiative, I argue that the key to CFD's success was the crowdsourcing approach it adopted. The crowdsourcing technology CAPTCHA helped harness an assemblage of humans, machines, codes, and signals around the data, and turned

this activity into a political movement. This exemplifies how civic hacking forges a collaboration between computer experts and citizen volunteers. By delegating the digitization task to xiangmin, the CFD transformed xiangmin from slacktivists to keyboard warriors, and gave birth to what Ethan Zuckerman calls "participatory civics," which "uses tools of participatory media and relies on theories of change beyond influencing representative governments to seek change" (2014, 151). The world is now witnessing the emergence of civic hacking as a new form of digital activism. Instead of simply celebrating the power of technology, this study attempts to bring to light the interplay between technology and politics in its situated context. With the disillusionment of a digital democracy after the rise of populism and extremism around the world, it is more important than ever to examine critically what opportunities civic hacking generates, what challenges it encounters, and what limitations it faces.

Notes

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1. Campaign Finance Digitization, "On that day, people recalled their anger of being manipulated," Facebook, May 13, 2014, https://www.facebook.com/cy.sunshine/photos/a.586795871432930/592438784201972/.
2. Xiangmin, literally translated as "villagers" in Mandarin, is internet slang that emerged from PTT, the largest bulletin board system in Taiwan. It describes those who join a crowd online to create attention about a subject.
3. g0v.tw, "[Campaign Finance Digitization] OCR by netizens. Good news of victory after 24 hours," Facebook, April 19, 2014, https://www.facebook.com/g0v.tw/photos/a.456791061028852/706021376105818. All translations are by the author.
4. http://campaign-finance.g0v.ctiml.tw/.
5. g0v.tw, "[Campaign Finance Digitization] OCR by netizens, good news on victory after 24 hours," Facebook, April 19, 2014, https://www.facebook.com/g0v.tw/photos/a.456791061028852/706021376105818. All translations are by the author.
6. "Code for a social change" is Clkao's (g0v cofounder) talk title given at The WebConf Taiwan, January 14, 2013.
7. I use real names for public figures and organizations, and use online usernames for my interlocutors. I am aware that using these names cannot entirely keep them anonymous, but they told me that they want be credited for what they say because of the open culture they advocate.
8. g0v.tw, "g0v.tw hackath8n Pitch," YouTube video, 4:54, April 19, 2014, https://www.youtube.com/watch?v=Pu8Q5jD4nFM&list=PLdwQWxpS513DsiaJRkDCy0oaHo8ELetMM&index=5.
9. Campaign Finance Digitization, "If you follow news closely these days, you should notice the warlike atmosphere recently," Facebook, July 10, 2014, https://www.facebook.com/cy.sunshine/photos/a.586795871432930/621967117915805/.

10. Campaign Finance Digitization, "On that day, people are reminded how infuriated they are to be manipulated by those in power," Facebook, May 13, 2014, https://www.facebook.com/cy.sunshine/photos/a.586795871432930/592438784201972/. All translations are by the author.
11. Campaign Finance Digitization, "The deep throat of the Watergate scandal said: Follow the Money!" Facebook, April 25, 2014, https://www.facebook.com/cy.sunshine/posts/583574211755096.
12. Legislator Candidate Wang Hsiang-Jung, "Why I want to run for the legislator," Facebook, April 28, 2019, https://www.facebook.com/permalink.php?story_fbid=2260001314043433&id=2254769834566581.
13. The manifesto page on the g0v website is available at https://g0v.tw/en-US/manifesto.html (accessed September 25, 2018).
14. hsnujeffy, "Power-Up Plan for the Economy by Executive Yuan (Backup)," YouTube video, 00:13, October 16, 2012, https://www.youtube.com/watch?v=RAbD3AGFX6I.

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