AI, Big Data, and Surveillance Zines as Forms of Community Healthcare

Abstract:

This article analyzes the zines, handbooks, and pamphlets on AI, Big Data, and surveillance published in the United States between 2009 and 2020 that aim to democratize knowledge on technologies. The main texts chosen for this article are *A People's Guide To AI: A beginner's guide to understanding AI* (2018), *Digital Defense Playbook/ Cuaderno De Juegos De Defensa Digital* (2018), *Oh! The Places Your Data Will Go* (2019), *The People's Field Guide to Spotting Surveillance Infrastructure* (2019) and the *Coveillance Toolkits* (2021), the Stop LAPD Spying Coalition's zines (2020); and the five zines produced by the Detroit Digital Justice Coalition since 2009. These publications are part of a longer history of feminist activists printing zines, booklets, and pamphlets to make scientific knowledge more accessible. In particular, these publications build on the traditional use of zines and handbooks by feminist and health advocacy organizations such as the Boston Women's Health Collective and ACT UP in the United States. In addition to following in their suit of explaining technical information by using clear language and providing definitions and resources, these publications on AI, Big Data, and Surveillance are themselves a form of health literacy.

Keywords: AI, artificial intelligence, Big Data, zines, feminism, surveillance

Article:

"What do listening to music, taking a flight, and getting stopped by the police all have in common? You might not realize it, but these actions could all involve artificial intelligence (AI) at work."

These lines open *A People's Guide To AI: A Beginner's Guide to Understanding AI* (2018). Written by Mimi Onuoha and Diana Nucera a.k.a. Mother Cyborg, with design and illustration by And Also Too, this 78-page booklet explores the numerous forms AI takes and the role AI-based technologies can play in fostering equitable futures. The booklet uses popular education, engaging design, and storytelling to make concepts such as Big Data, AI, and surveillance accessible to audiences who may not have a background in computer science and engineering. This booklet is one of many zines, booklets, and pamphlets published between 2009 and 2020 that aim to democratize knowledge about sociotechnological systems. These publications about AI, Big Data and surveillance technologies are part of a longer history of activists printing zines, booklets, and pamphlets to make scientific knowledge more accessible. In particular, these publications build on the traditional use of zines and handbooks by feminist and health advocacy organizations such as the Boston Women's Health Collective and ACT UP in the United States. Not only do these booklets, zines and pamphlets follow in their suit of explaining technical information by using clear language and providing definitions and resources, as this article argues, these publications on AI, Big Data, and surveillance are themselves a form of health literacy. The literacy provided by these AI, Big Data, and

surveillance zines is a form of community care and survival. In this article, we do not seek to trace a common lineage in the identities of zine creators over time; rather, we seek to show how the tactics and strategies employed by these tech education zines are similar to the historical health zines. We argue that the tech zines analyzed here do similar social work as historical health zines and should be understood as such.

Being educated about AI, Big Data, and Surveillance directly relates to health. AI technology has been used to decide who receives organ transplants (Miller 2020) and radiologists use AI to screen for breast cancer (Knight 2020, Savage 2020). While apps that test for skin cancer might be more accessible than traditional diagnostic testing, the current state of this technology is unreliable, and also systematically biased against some skin types (Freeman et al 2020). These technologies impact the health of both individuals and communities through a myriad of ways. In her research on how data-based discrimination affects and perpetuates economic inequities in the United States, political scientist Virginia Eubanks (2018) found that Big Data partially determine health insurance rates and credit scores, which in turn impact peoples' ability to access and pay for healthcare. Surveillance technologies relying on facial recognition and predictive policing software can increase police presence and police brutality (Benjamin 2019 b). The zines, booklets, and pamphlets analyzed in this article make this information accessible to the communities that will be directly affected by AI, Big Data and surveillance technologies. The article analyses the modes of production, distribution (online and offline), and knowledge mobilization with which these publications engage while contextualizing them within a longer history of health and technology advocacy.

On Big Data and Activist Use of Media

In a broader effort to expose the work of big data, data scientist Cathy O'Neil (2016) argues that the opacity of artificial intelligence (AI) seriously limits our control over the ways in which AI influences our lives. Media scholar Safiya Umoja Noble (2018) demonstrates the dangers of relying on search engines to determine the validity of search results. Data visualization scholar Alexander Campolo and AI researcher Kate Crawford (2020) warn against celebrating AI and deep learning as inexplicably accurate, as tendencies to simply accept AI without understanding its processes reduce the possibility of regulation. As a result of the harms that these scholars point to, data journalist Meredith Broussard warns against technochauvenism (2018): the idea that tech will fix our problems, when it oftentimes perpetuates them. Although there is scholarship on the dangers, when information is presented primarily in book or academic forms, there are barriers to access.

To resist the inequities embedded in discriminatory designs of what she calls the New Jim Code, sociologist Ruha Benjamin (2019) calls for the creation of community-based abolitionist tools that democratize data and stray from industry and government actors. In *Design Justice*, researcher and designer Sasha Costanza-Chock (2020) outlines the do-it-yourself and do-it-together media-making activities at events such as the Allied Media Conference, which include the DiscoTech: "a replicable model for a multi-media, mobile neighborhood workshop fair" (Detroit Digital Justice Coalition 2021). Here, we build upon work

by these and other critical technology scholars and conduct the first comparative study of the zines, booklets, and handbooks and analyze them within a longer history of health advocacy publications. In doing so, we take seriously Pratistha Bhattarai's (2017) claims that while many scholars are interested in studying algorithms, they should pay more attention to the value systems that legitimate the algorithm, rather than the logic of computation. The interconnections between big data literacy, activist work, and zines necessitate an analysis of what these Big Data zines have historically sought to deliver: critical knowledge about health and care.

On Zines, Pamphlets, Booklets, Feminism, and Health

Big Data zines are situated within a longer history of efforts to democratize knowledge and to expose social injustices. While zines focus on subject matter ranging from art, music, politics, and fandom, zines also hold a significant role in disseminating information regarding various health concerns and allow for the circulation of knowledge from expert to non-expert audiences, particularly, though not exclusively, during public health crises. The *Birth Control Handbook*, written and distributed by McGill students in 1968, circulated information about abortion and contraceptives, the dissemination of which was illegal at the time under Canada's Criminal Code (Holmes 2016). The *Handbook* was followed by the self-published *Women and Their Bodies* (1970) and *Our Bodies, Ourselves* in 1971, developed by the Boston Women's Health Book Collective. Access to expert knowledge is crucial to activist participation as well. Sociologist Steven Epstein (1995) details how, during the AIDS crisis, ACT UP members needed to familiarize themselves with scientific terminology in order to collaborate with medical authorities such as Dr. Anthony Fauci. Mark Harrington, one of the ACT UP leaders, created a fifty-page glossary of medical terms that was distributed to members, thus creating a baseline standard of common knowledge throughout the community (Epstein 1995, 418). In this sense, the informal dissemination of medical information democratized AIDS-related knowledge and created avenues for activist participation in institutional decisions. Furthermore, zines can assist in the creation of collective care practices. They can act as a site of communal efforts toward accessing healthcare and disseminating health information, particularly for queer and trans patient communities that remain discriminated against in medical settings (Latham and Cooke 2020). Jackie Batey (2020) explores the work of zines that communicate visual narratives about mental health, where their portrayal strays from stigmatized representations in mainstream media. The strategies employed in these publications such as using visuals, providing glossaries, and writing information in an accessible manner, continued to be employed by the creators of the zines, booklets, and pamphlets surveyed in this article.

In this way, the Big Data, AI, and Surveillance zines, pamphlets, and booklets surveyed in this article speak to the larger history of feminist usage of zines and health advocacy. The Barnard College Zine Library explains that ''zine creators are often motivated by a desire to share knowledge or experience with people in marginalized or otherwise less-empowered communities" (Barnard 2021). While subcultures such as the Riot Grrrl and punk scenes have historically distributed knowledge through zines, other communities interested in knowledge sharing have taken up interest in zines as well (Groeneveld 2016). Pamphlets and booklets serve a similar purpose. Due to their efficacy, zines continue to be used by feminist health

advocacy groups. Developed during the early months of the pandemic, *Asian American Feminist Antibodies: Care in the Time of Coronavirus* is a digital zine that seeks to "make meaning of the coronavirus crisis through long-standing practices of care that come out of Asian American histories and politics" (3). The zine's collections of resources, stories, and tips for preparing for quarantine, to name a few of its contributions, function to combine knowledge and care for its audience. Race, social movement, and digital technology scholar Rachel Kuo and associates (2020) provide an overview of Asian American digital media-making in the early months of the COVID-19 pandemic, with the zine at the center of their analysis. The zines, handbooks, and booklets analyzed in this article depend on the confluence of art, design, activism, and scientific communication. Artists occupy a unique position in relation to the emergence of AI systems, as most investigations of data ethics are centred on technological workers such as computer scientists and engineers (Stark and Crawford 2019). We situate contemporary zine makers and zines about Big Data, AI, and surveillance within a larger history of efforts to provide community care by disseminating critical medical and social knowledge.

Methods

This article analyzes zines, handbooks, and pamphlets on AI, Big Data, and surveillance published in the United States between 2009 and 2020 in their physical and digital forms. The main texts chosen for this article are *A People's Guide To AI: A Beginner's Guide to Understanding AI* (2018), *Digital Defense Playbook/ Cuaderno De Juegos De Defensa Digital* (2018), *Oh! The Places Your Data Will Go* (2019), *The People's Field Guide to Spotting Surveillance Infrastructure* (2019) and the *Coveillance Toolkits* (2021), the Stop LAPD Spying Coalition's Zine: *Not a Moment in Time… Building Power Not Paranoia* (2020) and Zine: *Not a Moment in Time… Building Power Against the War on Youth* (2020); and the five zines produced by the Detroit Digital Justice Coalition since 2009. While the emphasis of the article is on these twelve texts, we touch on other zines and handbooks produced by individual makers in order to highlight the major themes of the article: modes of distribution, democratization of technical information, and the larger history of zines/handbook creation in making scientific/specialist knowledge more accessible. Although all of the texts' producers are US-based, distribution networks in the digital age are global. While these conversations happen internationally, focusing on a single national context enables a more localized comparison, especially as the creators of these publications are subject to the same federal laws. We analyze each publication's creators, modes of production, modes of distribution (online and offline), and use of images in order to understand how these techniques enable knowledge mobilization.

Zine Themes

The publications surveyed in this article focus on the effects of AI, Big Data, and surveillance on the communities' members' lives. Rather than treating the technologies as science fictions or irrelevant to reality, these publications look at the actual applications that impact communities. While AI algorithms may be opaque, these publications write about the

ideas in terms readers are more likely to understand. The series of zines by the Detroit Digital Justice Coalition, with the first issue coming out in 2009, range in topic from computer hardware itself to the impacts of Big Data. Later, also published in Detroit, *A People's Guide To AI: A beginner's guide to understanding AI* (2018) looks at how AI and Big Data impacts peoples' lives. *Digital Defense Playbook/ Cuaderno De Juegos De Defensa Digital* (2018) focuses on the topics of data, surveillance, and community safety in order to co-create and share knowledge, analyses, and tools for data justice and data access. STOP LAPD Spying Coalition's two zines look at how Big Data and surveillance are integral to policing and immigration policy (2020). *The People's Field Guide to Spotting Surveillance Infrastructure* (2020), Algorithmic Equity Toolkit, and the Digital Surveillance Toolkits cover surveillance from perspectives of policing and hardware. *Oh The Places You Will Go!* (2019) focuses more on the software side of things and explains the relationship between a selfie and critical data frameworks. Each zine, pamphlet, and booklet addresses these new technological issues differently, focusing the information on their intended audiences and communities, employing different strategies for making scientific knowledge more accessible.

Zine Creators

AI, Big Data, and surveillance zines are typically produced by creators with organizational affiliation, which provides a larger distribution platform, more funding options, and pre-existing community connections. There are a few production hubs for these publications. Detroit, Michigan has been a key center due in large part to Diana Nucera. From her work within the Detroit Digital Justice Coalition to her co-authorship of *A People's Guide To AI,* she has actively produced these guides for over a decade. Her connection to Detroit is also amplified by her work within the Allied Media Project (AMP) and the associated Allied Media Conference (Costanza-Chock 2020). The Allied Media Project store sells print copies of several of the organizations' publications; the AMP webstore offers the Detroit Digital Justice Coalition's zines, *A People's Guide to AI*, and the *Digital Defense Playbook/ Cuaderno De Juegos De Defensa Digital* (Allied Media Projects 2021a), which has ties to Detroit, Michigan, Charlotte, North Carolina and Los Angeles, California. The AMP supports projects by selling their products (t-shirts, zines, and print publications) on their online store; they sponsor artists who wish to sell their work through AMP, and donors may donate directly to AMP or to a specific sponsored project (Allied Media Projects 2021b). Thus, key organizations such as the AMP and individuals like Diana Nucera have helped Detroit become a hub for community-based tech advocacy.

While Detroit has been a production center of knowledge mobilization, it is not the only hub. The West Coast has been another key site of production; community organizations, zine publishing, and festivals all take place there. From Los Angeles, the Stop LAPD Spying Coalition is dedicated to dismantling government sanctioned spying and intelligence gathering in all forms. They work as part of the Los Angeles Community Action Network which helps people dealing with poverty create and discover opportunities, while ensuring that those people have voice, power, and opinion in the decisions that are directly affecting them. Furthermore, the Stop LAPD Spying Coalition has created their zines in collaboration with other community based organizations, activists, and artists such as Bby Anarchists, the Palestinian Youth Project, the

Gender Justice Project, and the Youth Justice Coalition. In addition to these community organizations, Los Angeles is home to the Tiny Tech Zines festival, which has inspired other tech zines such as the Free Radicals' zine *Oh the Places You Will Go!* The Free Radicals are an activist collective advocating for a more socially just, equitable, and accountable science. The collective creates accessible resources for political education on the intersection of science and social justice and collaborates with local progressive organizing efforts on issues related to science and technology (2021). Further north, The ACLU of Washington State has been integral in producing, in collaboration with the Coveillance Collective and designer Micah Epstein, numerous works related to surveillance. Detroit and the West Coast of the United States are key sites of production and knowledge dissemination (although we note that the Allied Media Conference began as the Midwest Zine Conference, originally located in Bowling Green, Ohio).

Most of the zines, booklets, and pamphlets on AI, Big Data, and surveillance originate from organizations that are working on these issues already and are creating materials to make the information available to their communities and explicit or not, the resources these organizations create are relevant to their communities' health. Although there are some independent producers and solo authors who have circulated work at the Tech Zine Fairs, the organizations tend to work on these issues and host workshops. These zines, booklets, and pamphlets (and the related digital materials) are an extension of that work. This is unsurprising as other health zines employed similar tactics. Indeed, health zines tend to emerge from some form of health crisis or stigma, as in the cases of the coronavirus pandemic, HIV/AIDS, and narratives about mental health.

The creators of AI, Big Data, and Surveillance zines are primarily women of color and non-binary folks, working within community focused organizations. Marginalized groups are most likely to be targeted by AI, Big Data, and surveillance technologies; these groups are also less likely to have access to materials on these technologies. Zines, booklets, and pamphlets are a cheaper mode of distribution that can make this material more accessible to communities offline.[1] The groups creating these materials are explicit about this aim. For example, Our Data Bodies writes that they are working with the Center for Community Transitions, Inc., which they describe as an organization in Charlotte that is primarily focused on helping individuals with criminal records navigate paths towards healthy and productive lives (2021). The creators are also explicit about how this work is made to amplify and complement the work already being done by community organizations. Community-centred work is central to maintaining community health. In their introduction to *Asian American Feminist Antibodies: Care in the Time of Coronavirus*, Bhaman et al (2020) write, "*Together*, we can survive and build *interdependent* communities of resistance" (3, emphasis added). A collaboration between the Asian American Feminist Collective, which seeks to foster community connection toward social justice, and

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[1] While zines created after widespread internet adoption still work to provide access to information, this is not their only benefit. Zines that spread via the internet also allow for activists and organizers to learn about topics and clarify how to talk about them with community members and offer avenues for new metaphors and framings of the topics at hand to resonate with community members. Thank you to our reviewers for pointing out this distinction.

Bluestockings, a volunteer-run feminist and social activist bookstore and cafe, this zine, building on the longer tradition of health zines, acts as a form of feminist and community-based care.

Language is Key

Language is a key aspect to making the information in these handbooks accessible. All of the handbooks are written in English. There is a Spanish version of the Digital Defense Playbook, entitled *Cuaderno De Juegos De Defensa Digital* and there is a Spanish translation of *The People's Field Guide to Spotting Surveillance Infrastructure*, yet at the time of writing, no version exists online. Even if someone can read English or Spanish, this does not mean that the information is truly accessible. As social workers Karen Potts and Leslie Brown note, while "formal written report form is commonplace and although useful, it is almost inherently classist, exclusionary, and appropriative in that it requires translating marginal knowledges into the language of the elite" (2005). This is particularly true when it comes to the academic language used to describe scientific research and technology, whether explicitly about medical and health technologies or about AI, Big Data, and surveillance. LGBTQ+ health advocate Zena Sharman speaks to this in her book *The Remedy: Queer and Trans Voices on Health and Health Care* (2017), writing, "appreciate that [health] research is a helpful tool while remembering that many people's identities, lives, and stories are still missing from the data" (17). Sharman is not alone in advocating for medical and health information to be presented in a manner that is accessible and centered on the voices of members of the affected communities.

The zines, booklets, and pamphlets address the barriers of language with a variety of tactics. The most common tactic is that they avoid jargon. Jargon, vocabulary, complex grammatical constructions, and idioms can pose additional barriers for audiences. Special words or expressions that are used by a particular profession or group can be useful when a text is written for a small group of experts. However, when a text is written for larger audiences, jargon excludes readers. Abbreviations, likewise, can act as shorthand yet can confuse readers less aware of the topic. Nevertheless, as these texts are also about enabling communities to be able to speak to experts/ understand technical documents, the zines do not negate the importance of explaining certain terms. All of the texts surveyed in this article included glossaries and/or defined terms within the body of the texts. Explaining terminology was a central link in all of these texts. As the Boston Women's Health Collective, ACT UP, and other health organizations since the 1970s in the United States have included glossaries/definitions sections, the texts have included definitions throughout. Glossaries such as ACT UP's *A Glossary of AIDS Drug Trials, Testing & Treatment Issues* (Harrington et al 1988) democratize information by establishing a basic level of knowledge among readers. While zines about subjects other than health and tech surely incorporate similar strategies with regard to clear language and vocabulary, we read the clarity in the zines analyzed here as a strategy that works with the intent of disseminating information critical to one's survival and well-being. The analysis we offer – of similarities between tech and health zines – is not to suggest that zines of other kinds do not do similar critical work, but that we see clear linkages between strategies employed in health and tech education.

There will always be limits to the kinds of language one is using. While plain language writing is a form of writing that makes important information and ideas more accessible to everyone, including some neurodivergent and/or Disabled people, people with less print literacy, children, and others by using more common words and words with fewer syllables; shorter sentences; shorter paragraphs; using active vs passive voice; and cutting back on extra details or personal impressions (Pulrang 2020), these the zines we are analyzing do not have plain language versions. However, the creators still wrote and designed the publications with inclusion in mind. They also relied on techniques outside of language.

Use of Visuals

The AI, Big Data, and surveillance zines, booklets, and pamphlets use visual graphics to communicate important information. While some of the zines such as *Digital Defense Playbook/ Cuaderno De Juegos De Defensa Digital* (2018) use illustrations more for decoration with hand drawn arrows and ones and zeros serving as decorations for section headings, most of the zines use illustrations to communicate key information. Although later issues of the Detroit Community Tech Zines (4 and 5) moved towards using visuals more for aesthetic purposes, early issues relied on cut-and-paste aesthetics. The issues mixed illustrations, photographs, maps, and charts with text in order to render scientific and technical materials more clear. The first zine *Communication is a Fundamental Human Right* (2009) included a photo of every part within a PC for readers to better understand the technologies they were using (18). The second zine included charts displaying poll results on internet usage (17) and a diagram of the electromagnetic spectrum (23). By issues 4 and 5, even as the zines moved away from illustrations, photographs of community members engaging in the DiscoTechs, technology workshops, that the organization organizes (issue # 4, p.24) and a photo of the participants of the Data Murals project in issue number 5 (43), show the relevance of these zines by connecting to the Detroit community. The photo in issue # 4 on how to organize a DiscoTech is particularly powerful. In it, a young girl works with a copy of issue # 3 lying on the table beside her. Images in the zines are not secondary but are key to conveying the transformative power of the zines.

The visuals also work to make AI, Big Data and Surveillance technologies appealing and accessible. Illustrations serve to draw potential readers to the texts and break up large chunks of text. Certain motifs are particularly popular-- primarily cat motifs. In creating *A People's Guide To AI: A beginner's guide to understanding AI* (2018), the authors worked with And Also Too for design and illustration. Working primarily in blue, black and negative white space, the creators break up large blocks of text with illustrations and make the text more inviting and approachable. The motif of cyborg cats appears throughout the booklet, with a black and blue cat making a first appearance on the cover. Cat icons serve as page numbers at the bottom of each page. For the AI in Action section, a cat waves at the reader from within a cat shaped car (16). In the Learning Algorithms section, a cat wears cat-shaped headphones emblazoned with the Spotify logo to illustrate the example of Spotify algorithms (48). Paw prints, cat ears, and fun iconography make the materials more accessible and invite a creative approach from the readers, which is especially important as the booklet includes activities such as A Speculative

Sci-Fi activity (71-75) that encourage readers to imagine better futures. Cat imagery is not restricted to this guide; in fact it is quite popular. As creator Mimi Onuoha remarked at an event for the Feminist and Accessible Publishing, Communications, and Technologies Speaker and Workshop Series in 2019, they chose cats because of the link between the internet and the popularity of cat videos, photos, and memes (Onuoha 2019). *The People's Field Guide to Spotting Surveillance Infrastructure* (2019) utilizes a wide range of visuals such as photographs, illustrations, maps and QR codes that link to "further reading" in places where additional content or context was necessary. The mixed media approach catches the eye and engages audiences. The photographs are practical as they show readers what different surveillance technologies look like so that they can identify them in their daily life, such as automatic license plate readers and different kinds of surveillance cameras. Maps, such as one of traffic cameras in Seattle (11) and another map showing the Acyclica installations in Seattle (8), which gather your WiFi data as you walk past, demonstrate how ubiquitous these technologies are. However, the zine still includes an illustration with a cat for the section entitled "You, Your Cat, and Targeted Ads" (5). The section seeks to inform readers about the way queries in search engines lead to targeted advertisements by use of the example of searching information on your pet cat. The zine states, "cats are an innocent example. But there are some more sinister predictions and correlations that companies and organizations can make using this data" (5). Here the creators of the zine explicitly speak to the way that using comforting examples helps make this information more approachable.

Using cats circumvents some of the challenges of depicting humans. With cats, readers can project themselves without barriers of race, ethnicity, disability, and such. However, creators of other zines decided to depict the communities most affected by the topics, such as the Stop LAPD Spying Coalition's *Zine: Not a Moment in Time… Building Power Not Paranoia* (2020) and *Zine: Not a Moment in Time… Building Power Against the War on Youth* (2020b). Every page of the latter zine focused on youth includes illustrations of primarily children of color done by the artist Bby Anarchists. These stylized illustrations show children engaged in mutual aid projects and direct actions. At times, these cartoons are transposed upon photographs, such as the cartoon of a little child placed upon a photograph of a ICE detention facility above the words, "I deserve a childhood" (2020b, 13). The zines remain text-heavy, filled with information about how to reject policing and surveillance, yet the images make the zine both more approachable and more poignant.

Some zines rely on visuals more than words. *Oh! The Places Your Data Will Go* is a picture book stylized after Dr. Seuss in which readers follow a selfie photo "on a journey through facial recognition algorithms, the corporate and state data sharing environment" (2019). The project is even entitled "Data Seuss." Here the reader is taken on the journey, entirely guided by illustrations (or the wonderfully provided alt-image text in the digital version) and rhymes. The whimsical depiction of Big Data may entice readers who are less explicitly interested in technology.

Images in zines serve educational and political purposes. Photographs and diagrams were central to the *Birth Control Handbook*: historian Christabelle Sethna (2006) writes, "The

diagrams were explicit, showing, for example, the ways in which certain barrier contraceptives had to be correctly inserted or fitted" (95). Without diagrams, then, readers of the *Handbook* might be left with questions regarding how to use contraceptives effectively. Moreover, images may act as a form of iconography or as explicit political statements. Interdisciplinary researcher Andrew Weiner (2012) describes how the ACT UP movement developed its own politicized aesthetic, such as the recognizable SILENCE = DEATH triangle logo. ACT UP's aesthetic was not limited to zines, however; their DIY, cut-and-paste methods applied to their media "regardless of format" (Weiner 2012, 104). In this sense, whether discussing AI or contraceptives, zine visuals deliver accessible and critical knowledge while simultaneously communicating the politics of its creators.

Distribution

All of the documents analyzed in this article are available in digital and physical formats and have often been accompanied by workshops. This section will look at distribution methods and the different experiences one can have with a physical vs a digital object. The tangible quality of zines, booklets, and handbooks serve a different function than digitized publications and can reach audiences who would not otherwise find the work (Merewood 2021).

The texts analyzed in this article are designed primarily with a print layout in mind. Broadband access is not evenly distributed across the United States (Bode 2020). The Detroit Digital Justice Coalition addresses this issue directly in their zines. The coalition has worked to utilize wireless mesh technology in order to increase internet access (Detroit Digital Justice Coalition 2012). However, access to the internet is not the only barrier. Not everyone has devices that can tap into the internet and digital media literacy is not available to every community. As these texts aim to democratize knowledge about technologies, physical publications can overcome certain barriers to access. Physical copies of these texts have been distributed for free; however, physical media has material costs. The cost of paper, ink, and binding becomes significant for the longer texts. The Coveillance Collective and Micah Epstein, working with the ACLU of Washington, have distributed free copies of their printed materials at workshops. In September 2019, they provided free copies to participants of their first walking tour workshop that they conducted with the Technology Equity Coalition in Seattle. However, in order to recuperate costs, they sold copies of their second print run at cost at the CtrlZ.AI zine fair in Barcelona in February 2020. The coalition currently works with the Take-A-Zine project in Boston to distribute more copies. Despite zines' alternative, DIY politics, these publications do not always escape capitalist logics (Reynolds 2020). While physical copies of zines are produced at lower cost and are more easily distributed, digital media has its own advantages that can make materials accessible to different communities.

Most of the creators have made a PDF version of their zines and handbooks available for free on organization websites. This enables the distribution of work both inside and outside of the community itself, for anyone with an internet connection, including mobile phones. For example, *A People's Guide To AI: A beginner's guide to understanding AI* has a PDF version of their 78 page handbook. This file is made freely available, although donations are welcomed. If

people want the professionally printed copy, they will have to send $7 to the Allied Media Project. No content differences exist between the two versions. Some publications format the information differently than a PDF version of the printed document. For *Oh! The Places Your Data Will Go*, the creators Alexis Takahashi, Sophie Wang, and Chrystal Li created a web based version of the information that readers could scroll through on their website. The ACLU of Washington State created two digital versions. There is the PDF of their zine *The People's Field Guide to Spotting Surveillance Infrastructure* and also their website https://coveillance.org, which includes interactive hyperlinked and embedded materials. Digital distribution is only one tactic of increasing access.

Zine fairs are another mode of disseminating these materials. For example, *Oh the Places Your Data Will Go!* was part of a series of zines that Free Radicals presented at Tiny Tech Zines on August 11, 2019. Tiny Tech Zines is a tech zine fair and collective based in Los Angeles, California focused on the relationships between marginalized communities and technology (2019). The organizers of Tiny Tech Zine, Rachel Simanjuntak, Tristan Espinoza, Tyler Yin and Lilyan Kris said that they were inspired by the New York Tech Zine Fair. On December 1, 2018 the first ever New York Tech Zine Fair provided a platform for more than 40 exhibitors and DIY publishers to sell and circulate their work on technology and digital culture in, what the organizers hoped, would be a supportive community (2018). The fair also included workshops, such as one hosted by programmer and zine creator Amy Wibowo, entitled "Zines as a Friendly Introduction to Complex Concepts" that focused on how making zines is a friendly and accessible way to include communities that are often left outside of the engineering world. Both of these zine fairs primarily drew American exhibitors, yet Canadian based organizations such as the Digital Justice Lab were represented. Further, the festivals have not been restricted to the US context. Canadian zine festival organizers in Toronto hosted their own fair on June 20, 2019 as part of The Bit Bazaar at Toronto Media Arts (Ones and Zeros 2019). Toronto Tech Zines (TTZ) showcased zines about internet infrastructure, love, surveillance, gentrification, dance, futurism, accessibility, games, race, food, geometry, indigeneity, Instagram, Earth, and more (2019). As an off-site event alongside the 2020 ACM Conference on Fairness, Accountability, and Transparency (FAT*), an interdisciplinary conference focused on understanding and mitigating the harms of data-driven algorithmic systems the CtrlZ.AI Zine Fest happened in Barcelona on January 30, 2020. The workshops were part of the the FAT* CRAFT sessions which "aim to take a more holistic approach to issues of fairness in sociotechnical systems" (2020). By pairing CtrlZ.AI with FAT*, the organizers hoped to bring the academic research community into conversation with artists, activists, and diverse communities affected by algorithmic systems (2020). The organizers Emily Denton and Alex Hanna "chose zines and related DIY creations as the primary medium of communication at CtrlZ.AI due to their low barrier of entry — to both creation and readership — and because of the significance this publication model holds for many marginalized communities" (Denton and Hanna 2020). Zine fairs served as another mode of distribution. Tabling and workshops encouraged browsing and the distribution of materials in a physical context. The remaining websites, social media, and promotional materials from these festivals function to direct potential readers to these zine materials. In essence, zine fairs expand both the physical and digital modes of distribution. While these tech zine fests are not all focused specifically on AI, Big Data, and Surveillance,

such as the Computery Zine Fest which took place on February 24, 2019 in Santa Cruz, California (2019), they all seek to democratize and distribute scientific knowledge in an accessible, liberating, and community-oriented mode.

Workshops

In addition to their social and political value, zines and handbooks are pedagogical tools that may be used to develop student understanding of power structures and aid in deconstructing hegemonic ideals and stereotypes (Desyllas and Sinclair 2014). Velasco et al (2020) consider the zine as praxis and method, and consider it a valuable and instructive tool toward the development of critical pedagogy. Such educational developments are situated within a broader call for researchers to account for the power relations inherent in academic research practices. Weinberg (2020) suggests an intersectional feminist approach that serves to rearticulate such power dynamics which "would demand that researchers who engage in technological development do so in a more reflective way, taking as a starting point the voices and experiences of those who are most vulnerable" (7). Lupton and Watson (2020) explore the use of the zine toward "different explorations of the felt presence of algorithms in everyday life" (8) and demonstrate the pedagogical value of zine and handbook workshops.

All of the zines, booklets, and handbooks connected to the Allied Media Project (AMP) and Allied Media Conference have associated workshops. Beginning in 2009, Detroit Digital Justice Coalition has hosted DiscoTechs, short for discovering technology, which are workshops in which participants "would work together to ensure that the skills and tools needed to communicate in this digital age are accessible to our communities" (2015, p.5). In their fourth zine, which includes tips on how to organize DiscoTechs and a photo from a past DiscoTech with a young girl working alongside the third zine edition (24), the creators write that "we identified the need to create a space where people can discover technology together, learn at their own pace, and learn from people who are accessible and understand the context of their neighborhoods and communities" (7). Since the start of the pandemic, the organizers of *A People's Guide to AI* workshops have adapted all of their workshops to be "online while keeping a learner-centered approach, foregrounding accessibility, and having fun." They launched their new workshop, "Machines That Learn," which unpacks the concepts and functions of machine learning within the field of artificial intelligence (Epstein 2021). Our Data Bodies hosts workshops as an extension of their work with the *Digital Defense Playbook*. Workshops can be facilitated as a series of community-based events or as individual, stand-alone workshops, ranging from 45 minute to 2-hour sessions. The organizers write that "we want to ensure that we are leaving our community members with a sense of power, not paranoia" (Lewis et al. 2019). The workshops and publications work alongside one another in order to amplify their messages.

Workshops, accompanied by zine and handbook publications, are a popular form of knowledge dissemination that emphasizes the community and health implications of Big Data, AI, and surveillance. The STOP LAPD Spying Coalition organizes workshops as part of their larger body of work of community sharing (2021). During the pandemic, they moved to online webinars to continue this work. Subjects have included: State of the Police State, Election,

Covid, & Uprisings: Part 35; Police State, Gender & Sexuality in Time of COVID and Uprisings: Part 29; Data Driven Policing & Surveillance in Time of COVID & Uprisings: Part 27; and many more (2021). The links between surveillance, safety, and health are also evident in the work by the Coveillance Collective. Made in collaboration with the ACLU of Washington, the Coveillance toolkits are workshops that seek to demystify surveillance technologies in Seattle in the historical context of structural inequities in the United States. The four workshop themes are understanding the rise of tech fueled surveillance, mapping data stories in the surveillance ecosystem, a walking tour of surveillance infrastructure in Seattle, and countersurveillance in Seattle (Coveillance 2021b). Similarly, the reason *The People's Field Guide to Spotting Surveillance Infrastructure,* which is based on bird spotting guides, was ever created was because the creators wanted something that the participants in the first walking tour workshop "could take home with them that was empowering." As creator Micah Epstein reflected, "A large focus of our work is making surveillance (which is disembodied and intangible, especially in online spheres) more physical and accessible. So a zine, which is cheap + easy to distribute and physically tangible, was the perfect format" (2021). The Algorithmic Equity Toolkit does similar work. Workshops and the publications work together to communicate to a larger range of audiences, clarify questions, and open opportunities for creators and participants to explore new ideas.

Workshops are integral to knowledge dissemination in efforts of improving community health, whether that means mitigating the harms of surveillance and Big Data, or having access to medical information. *Our Bodies, Ourselves* began as a workshop in 1969, in which the participants "shared their experiences with doctors and their frustration at how little they knew about how their bodies worked" (OBOS 2021). ACT UP worked through the creation of working groups, committees, and caucuses devoted to certain topics (ACT UP New York Records 1987-1995). Holding meetings meant that community members who were interested in the information ACT UP had to offer did not have to rely solely on textual media, but had opportunities to be consistently informed, meet other members, and ask questions. Indeed, collective consciousness is more likely to lead to collective action, as ACT UP has demonstrated during its peak years. These tactics continue to be deployed: the STOP LAPD Spying Coalition has explicitly made the connections between surveillance, policing, the COVID-19 pandemic, and the barriers experienced by marginalized communities (2020). Whether addressing COVID-19, HIV/AIDS, Big Data or AI, workshops provide another arena in which participants can share wisdom, be brought together, and enable community flourishing.

Conclusion

Activist goals have shifted with the introduction of digital media, as new technologies have worked to shape the way activism is enacted (Petersen et al 2019). Zines form a culture of resistance and operate based on a "vernacular radicalism" (Duncombe 1997, 3), and are characterized by "an emphasis on knowledge sharing and personal experiences" (Hanna and Denton 2020, 686). Furthermore, the democratic production of zines allows for their occupation of a narrative space outside of the mainstream (Hanna and Denton 2020). Therefore, we situate

contemporary zine makers and zines about AI, Big Data and Surveillance within a larger history of efforts to provide community care by disseminating critical medical and social knowledge. As media that emerge from feminist collectives and community-based care networks, zines are an integral part of grassroots forms of healthcare. Contemporary zines about Big Data and AI make explicit the connections between surveillance, machine learning, and community health. We hold that having knowledge of current big data infrastructures, which extend to many aspects of our lives, is a form of survival. Questions about data and AI should not be relegated to the tech industry; rather, as the zine-makers and handbook producers cited in this article have shown, the worlds of technology and health ought to be considered as interdependent spheres that rely on each other for the creation, distribution, and reception of health information.

Acknowledgements

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