

Civic Spaces and Collaborative Commons

Abstract

Commons based peer production (CBPP) is a framework for considered economic production that emerges from voluntary relationships supported by at scale by Information and Communication Technologies (ICTs), and in tension with the hierarchical and profit driven models of technology development that are most commonplace (Bauwens, 2019). In this article, I use the concepts of "the commons" and "commons based peer production" to analyze themes of transition in Civic Tech Toronto, a five year old group supporting autonomous technology development outside of market incentives in Toronto, Canada. Reflecting on interviews, workshops, action research (Checkland, 1998) and situational analysis (Clarke, 2008), I argue that understanding CTTO using the commons as a metaphor (given the community has not embraced the designation) allows us to more clearly articulate the normative dimensions of the system. Using examples of CTTO's implication in transitions within Toronto's civic tech world, I argue that civic tech as a movement for commoners has become separated from civic tech as a sector for expert services, in part because of a lack of the kinds of organizationally supportive relationships provided within frameworks like CBPP and the Partner State Approach. Adopting language of the commons provides solid group to understand the work and potential of CTTO, as well as suggesting strategic visions to support transitions to more commons-based modes of technology development through the cultivation of new relationships between states, technology, and communities.

1 Introduction

Nearly every Tuesday night since July of 2015, whether in government buildings, universities, technology firms, community spaces, or Zoom meetings, Civic Tech Toronto[1] has hosted a hacknight. After participants have satisfied their appetites for pizza or samosas, introductions begin. Going around the room, participants introduce themselves. They are designers, public servants, students, researchers, activists, grocery store clerks, retirees, newcomers, and "anarchists with a soft spot for government". They are interested in transit, elections, democracy, mesh networking, housing, policing, web design and more. They are looking to learn, they are looking to teach, they are looking for friends, jobs, and meaning. After everyone has introduced themselves, they listen to the nights' speaker, asking questions and exhorting the presenter to stay a little longer. Then come announcements and pitches. One by one, members come up and explain what they are trying to accomplish-- a problem, an application, a map, a device-- and what they need help with: front end, back end, writing, social media, GIS, or just some perspective. Then, they mill about in groups, talking, or sit in empty board rooms overlooking the city, hacking and working together. At 9, the chairs are stacked and they are all shepherded outside into the night, often going in groups to a nearby bar where they stay up later than makes sense for a Tuesday, talking and planning for the following week.

Civic Tech Toronto (CTTO) is, in their own words, "a diverse community of Torontonians" who have built a community based on an interest "in better understanding and finding solutions to civic challenges through technology" (CTTO, 2020). The goal of this paper is to characterize CTTO as a common civic space, a site of commons based peer production (CBPP) (Bauwens, 2019). The intention of this argument is pragmatic, rather than descriptive. I do not mean to argue that CTTO /is/ a commons, although it does have several key features of commons and does appear to be oriented towards CBPP (although not in name). Since the CTTO community does not view itself as a commons, it would be inappropriate for me to describe such a pluralistic and amorphous group in that manner. In the spirit of "noticing differently", (Lindtner et al. 2018) my argument is that CTTO has always been at least in part about asserting futures the community can strive for, and that civic

tech as a commons is one future, a sociotechnical imaginary, that the community could imagine together.

This paper gives an account of how the activities of CTTO can be interpreted using the language of CBPP, drawing primarily from Bauwens et al. (2019). To do this, I first describe CTTO and Toronto by construing concepts like civic tech and public interest technology in service of sociotechnical imaginaries of governance and political subjectivity. These concepts are then transposed to the frame of CBPP, before I introduce the concepts of Partner State Approach and the peer to peer ecosystem (Bauwens, 2019) to understand historical transitions in the movement and suggesting possible orientations toward the future.

This paper is a presentation of in progress doctoral research that is structured as iterations of Critical Systems Practise (Jackson, 2003 p.312), wherein each the researcher acclimatizes to the research site, picks a suitable framework (usually from within the systems thinking canon) and applies it to the site, while reflecting on the work throughout and afterwards.

My intention was to gain an understanding of how public interest technology was produced in Toronto, and specifically how Civic Tech Toronto, my primary research site, was situated therein. For this, I adopted a framework from Science and Technology Studies, Situational Analysis (SA) (Clarke, 2008; Clarke et al. 2016). SA is based on a theoretical framework from sociology, the "social worlds/arenas" framework, and has been expanded with concepts from actor network theory and grounded theory (Strauss, 1983; Clarke, 2008). SA is intended to elicit awareness of the many actants involved in complex social situations, including people, infrastructures, and discourses, through the iterative creation of "maps" that aid the researcher in making connections. In SA, "social worlds" are groups of people that are united by shared language, communications media, and work objects. They are sites of collaboration, contestation, fragmentation, and mutation. Social worlds use specialized practises and vocabulary to legitimate themselves internally, and they interact with other social worlds in "social arenas". By using SA, I have sought to portray CTTO as a social world, where certain kinds of activities and modes of production are experimented on and encouraged, under larger discursive concepts like "civic tech". CTTO is merely one group in Toronto working at the intersections of technology and public life, and SA has helped to organize and understand the myriad of actants involved.

Subsequently, my focus shifted towards intervention, by taking an approach structured by Action Research based in Soft Systems Methodology (Checkland, 1998). Since September 2019, I have attended all but one CTTO hacknight, attended organizer meetings, and assisted in the day-to-day activities as a full participant. I have treated hacknights as a site for ethnographic work, taking field notes, and have interviewed other organizers (past and present) during the course of the research. The basic structure of action research in SSM is straightforward; the researcher acts to improve a situation with some background and theoretical framing (somewhat comparable to the "sensitizing concepts" that guide data collection in SA), and through learning driven by negotiation and cooperation with other participants at the research site. Reflection on this work leads to research "themes" which help to structure the writing-up of the work. In my case, CTTO as a site for CBPP and sociotechnical citizenship are examples of these emergent themes.

2 The Situation

2.1 What is "Civic Tech"?

In a formative piece, Christopher Whitaker defines civic tech as "technology projects involving intentional collaboration between technologists, bureaucrats, entrepreneurs and nonprofit employees to engage the public or solve civic problems... [or] Any technology that intersects public life"

(Whitaker, 2015). This definition ascribes a number of distinguishing characteristics of the imaginary of Civic Tech; a) that it creates a specific kind of technology, b) that it does so through a specific development process, and c) that it can be contrasted with other modes of technological development. In the following paragraphs, I go over these features, pointing out some underlying tensions, before synthesizing them as different aspects of a much broader "sociotechnical imaginary" of which civic tech is a part.

One aspect of Whitaker's definition is instrumental; it specifies that civic technologies should be /for/ "[engaging] the public or [solving] civic problems" (Whitaker, 2015). One way of looking at civic tech is by focussing on the technological systems that it creates, and what the purpose of these tools is imagined to be. The centrality of technological objects is carried over into some academic areas as well. For example, in a systematic literature review of "how civic technology is used in the collaborative creation of solutions for social issues and innovations for public services (i.e., social innovation)" Saldivar et al. define civic technology as "technology (mainly information technology) that facilitates democratic governance among citizens" (Saldivar et al., 2019). But a definition of civic tech that is too focussed on civic technologies is insufficient because the boundaries are too easily strained. If civic tech is "any technology that intersects with public life" (Whitaker, 2015), then we might ask- "which technologies?" or "what is public life"?

We may be more or less inclusive in our conceptions of technology, after all, elections are sociotechnical systems. Contemporary and emerging technologies such as open data (Goldstein, 2013), data analysis and visualization (Baack, 2018), blockchain (Ransbeeck, 2017) or machine learning and facial recognition (Nucera, 2020) are trendy topics for civic tech, but older technological concepts remain important. In 2019 and 2020, speakers at Civic Tech Toronto, for example, have shown how videogames can be used for civic education, discussed municipal recycling and e-waste reuse, and shared research on digital literacy and misinformation, along with numerous other topics that do not represent the bleeding edge of technology.

The concept of "public life" is more nuanced, and our lives are inextricably linked with technological systems. On the one hand, we could understand public life strictly in terms of sanctioned political activities or relating to the "public sector" (so that civic tech is congruent with what Di Salvo calls "design for politics" (Di Salvo, 2012)). Used in this manner, terms like "civic tech" and "public interest technology" (Schneier, 2019) have much in common with terms like /eGovernment/ and digital government (networked information systems use to access government services) and /eParticipation/ (technologies to support interactions with democratic political processes) (Macintosh, 2008; Medaglia 2012). On the other hand, "public life" can also refer to political discourse, as in the context of a Habermasian "public sphere", referring to political discourse and civil society more broadly (Habermas, 1991). If this is the case, however, social media companies become civic technologies because they intersect with public life and have huge influence on how information is communicated and apprehended. While aspects of these systems are of interest to civic technologists, they are not civic technologies, because civic technology is about process, rather than products.

Whitaker's definition also draws attention to innovations in technology development that involve diverse sets of actants, such as "technologists, bureaucrats, entrepreneurs and nonprofit employees," (Whitaker 2015) each offering complementary technical and situational expertise. The idea that more effective and equitable systems and interventions can be designed by leveraging numerous perspectives is hardly new, and has been core to design, STS and some systems thinking approaches for decades. Engaging in iterative and participatory design is, however, a new idea for governments, and civic tech as a term can signify a way of developing technologies without relying on major vendors and top-down software engineering (Noveck, 2015).

Whitaker goes on to distance civic technologists from "civic hackers," who explicitly avoid collaboration with governments (Coleman, 2004; Schrock, 2016), but civic tech also has deep connections to activism and community organizing. Absent from Whitaker's definition is a place for "bottom-up" or "grassroots" participation by laypeople and commoners, foreshadowing a distinction between civic tech as a sector and as a movement, discussed in more detail below. Civic tech performance can be akin to journalistic practise (Baack, 2018), and adversarial examples of civic tech are often stirring, for instance: civic technologists in Chicago used newly opened data sets to expose a history of police brutality and malfeasance (Goldstein, 2013), and when members of Taiwan's g0v community were among democracy activists occupying parliament demanding transparency and participation, while hacking on technologies that their governments would later adopt for that purpose (Wu, 2018)!

Civic Tech Toronto is a civic tech group because it calls itself as such, but not every community organizing project that uses technology is civic tech. Laurenellen McCann, interviewing dozens of practitioners, notes that many did not see themselves as doing civic tech and were wary that such a term could risk erasing the long histories of localized struggle for justice because observers could become fixated on how organizers were using contemporary technologies (McCann, 2015). While many political struggles will be legible to civic tech people, civic tech is often illegible to those outside of civic tech. Civic tech has its own imaginaries and ideals, that, while often based in widespread participation and solidarity, are distinct to a specific social arena.

Terms like "civic tech" draw attention to potential innovations that might come from widespread participation and collaboration and are motivated by values like the "public good". As a reformist project, civic tech imagines a technologically retrofitted democracy, where state services are easy to use, and where state of the art data collection techniques make the world legible to states and citizens alike. These technologies are also applied to democratic governance, suggesting a polity that can engage with online consultations, where public servants and citizens come together to understand complex social situations or just to talk shop.

"Civic tech" is a view of "government as platform" rather than as a "vending machine" (Schrock, 2016) alluding to, but without subsuming, a larger vision of how technology and democratic governance can be made compatible. It is a facet of what Jasanoff calls a "sociotechnical imaginary", "collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by understanding of forms of social life and social order attainable through, and supportive of, advances in science and technology" (Jasanoff, 2015, p. 4). These transformations can be seen as necessary to projects of democratic legitimation as well as epistemically pragmatic (Noveck, 2015); not only is the /demos/ capable of productively contributing to the work of governance, but the legitimacy of democracies depends on it. The nexus of this transformation is in the relationship between the apparatuses of the state and the residents, citizens, or commoners that make up the /demos/, and the imaginary that civic tech alludes to idealizes a system based on "fluid interactions between lay and expert participants in the institutions of the technosystem" (Feenberg, 2017, p.37).

At the grassroots level, civic tech is an acknowledgement that universal democracy requires that objects like open data sets, APIs, sensor networks, applications, databases, GIS systems, chatbots, and websites are the sites of political discourse and intervention, even if engaging with these complex systems requires a diversity of technical skills and situational experience that can only be achieved through cooperative activity. Social worlds like CTTO create the technological artifacts and the political subjects of these imaginaries, recognizing that that political subjectivity ("citizenship" broadly, but noting the problematic connotation of legal status) is sociotechnical, constructed alongside the institutional affordances for engagement (Coleman, 2011) and contingent on a "continuous flow of facts, opinions, and ideas that help citizens understand matters of

potentially public concern and identify opportunities for action" (Wells, 2012) that presumes numerous literacies.

2.2 Civics and Tech in Toronto

In 2019 and 2020 I attended numerous events (both in-person and virtual) conducted interviews, and did some research on social media. My intention was to explore the different people and groups that were working at the intersection of technology and civic life or are self-consciously using technological expertise to intervene in matters of shared concern. As I quickly found, there were a great number of these groups. In part, this was because the porous boundaries of "civic tech" were readily exceeded. This research made clear to me the history of communities in Toronto organizing around technologies or technology discourse, coming together to serve their shared goals or to share their perspectives.

For example, projects like Alternative Toronto[2] and Mapping Black Futures Toronto[3] have created maps and community archives to document the histories of Toronto's Alternative and Black communities, serving specific publics whose spaces are threatened by Toronto's gentrification. Indigenous Friends (now a social enterprise) has created a social network to build connections and community among Indigenous youth in the city of Toronto[4], IntersecTO host meetups and creates podcasts reflecting on the experiences of Black, Indigenous and tech workers of colour[5], and the Digital Justice Lab, a Makeway Shared Platform Project, which exists to advocate for marginalized communities and help non-profits build digital capacities[6].

Publics have also formed around specific issues, such as #BlockSidewalk, an umbrella for different groups working to restrain the ambitions of the now cancelled Alphabet smart city on Toronto's waterfront[7]. Tech Reset Canada provides critical advice on Canada's technology and innovation policy[8], while groups like EDGI (the Environmental Data Governance Initiative) rose to the task of guerrilla archiving when a change in administration threatened climate data from the United States[9]. HousingNowTO uses data visualization to monitor the city's affordability and housing crisis[10], while groups like the Davenport Mutual Aid Network have emerged from Caremongering groups on Facebook to support those suffering hardships amid the COVID-19 pandemic.

Toronto also has vibrant P2P and hacker communities, with maker-spaces and artist run centres hosting projects and offering events to the public, and a FreeGeek chapter working to refurbish donated computers to offer as low cost Linux machines[12]. Especially interesting are the publics that have organized around internet infrastructure, with Wireless Nomad[13] operating as a cooperative ISP until 2009, and FreeNet continuing to operate as a not for profit ISP[14]. Until 2011, Wireless Toronto, founded by a CTTO co-founder, mobilized a community of volunteers to establish and maintain a network of public WiFi hotspots in the city by partnering with local businesses and public spaces[15]. And now, Toronto Mesh, founded at CTTO in 2016, works to develop and deploy community run wireless infrastructure in the city[16]. The Our Networks conference runs yearly, bringing together P2P and decentralized/community infrastructure advocates from across the world, and championing visions of alternative networking technologies[17].

Each of these groups and projects has their own stories. While many of them do not use terms like "civic tech" to describe their work, many have also had interactions with CTTO (whether as speakers or through member crossover) and all of them are legible as projects that address Toronto through the novel application of technologies leveraging connection and cooperation.

2.3 What is Civic Tech Toronto?

Started in the summer of 2015 by a group of technologists, activists, consultants and public servants, CTTO's community is constructed around "hacknights", weekly congregations that bring together participants of many different professional backgrounds. CTTO emphasizes inclusion and "silo-busting", stressing that "everyone can contribute", and that interest or experience is sufficient to make a contribution to a project or group. Specifically, participants are reminded that technology expertise is not a prerequisite to participate, and that the community's focus is "90% civic, 10% tech". CTTO communicates this each week through their code of conduct, which forbids "harassment of any kind" and in their weekly "Civic Tech 101" presentation, which provides an introduction to the social world of Civic Tech and to the operations of CTTO.

CTTO creates and maintains a place for interaction within a specific modality of political subjectivity through the weekly hacknights. This is captured in a 2016 document and workshop that set the strategic agenda for CTTO as "creat[ing] conditions in which civic tech can thrive in Toronto and beyond," and "supporting Torontonians in becoming better-equipped to make changes in the city" (Milito, 2016). Hacknights create a space and time for CTTO participants to learn about civic issues as well as technologies, as well as to socialize and cooperate on areas of mutual interest. After a presentation, attendees are invited to make short "pitches" that describe their areas of interest, perhaps by initiating a "project" or by stating their goals for the night. The latter half of the hacknight is devoted to working in these breakout groups, where participants discuss, research and hack on their ideas and interventions. In some moments overtly sceptical of the superficial and brief engagements of the "hackathon" format, hacknights stress iterative and intentional involvement in topics, even if the outcome is a collective sense of awe at the complexity of civic issues.

Project work also encourages participants to experiment with different modes of cooperation. Since there is no obligation to return to hacknights, projects must continually attract new members whose commitment is consensual, and where duties are negotiated within the groups. This can be empowering and limiting, as groups work to scope interventions, keep their commitments, publicize their work, and bring in new members when needed. Projects begin, end, or grow to the point where they work outside of hacknights in part or entirely.

3 Civic Tech Toronto as a Commons

Concepts from CBPP can be productively applied to CTTO, providing clarity to aspects of its purpose, governance, and ecosystem. I use the commons as a framing device, as CTTO neither describes itself as a commons nor as a site for CBPP, although some participants have in the past attempted such a theorization and transformation. Interpreting CTTO as a commons yields productive and interesting results, speaking to the past, present, and future of the community.

Examples of notional and actual commons are somewhat common: from the earth, to our collective cultural output, some even including the public institutions of the state (Standing, 2019; Hardt, 2017). There (at the very least) examples of commons throughout European and colonial history (Federici, 2004, 2018; Standing, 2019), the scale and potential of these kinds of cooperative relationships has arguably been increased by information and communication technologies that allow faster, more flexible, and less hierarchical management of projects and systems (Bauwens, 2019). Interdependence between commons and commoners prefigures new kinds of polity, that elude the extractive territorialization of settler states (Fortier, 2017) in favour of a fluid and voluntary solidarity that generates value through cooperation.

For our purposes, there are two major elements of a commons: a resource, and a community organized around the sustainable management of that resource. In the case of "natural" commons like forest and fish stocks (Ostrom, 1990), and even in the case of information commons (Bauwens,

2017), such as code repositories and libraries, the resource in question is more or less obvious. In the case of CTTO resources also emerge from the interactions and relationships that constitute the community more broadly. In information commons, the communities themselves also behave as resources; developers rely on the expertise of others to effectively develop and deploy code in what Bauwens et al. call "stigmergic" collaboration (Bauwens, 2019).

This analysis is specifically focussed on commons as social territories that facilitate interaction and interrelation, and as systems for communally governing the access and use of resources and productive capacity (Hardt, 2017). The nature of these new relationships is encompassed by the concept of "P2P" or "peer to peer", which signifies a type of relationship based on free and easy connection between people, a technical infrastructure supporting these connections, a mode of production and cooperation resulting from these relations, and an imaginary for a new economic reality based on generative interdependence rather than extractive competition (Bauwens, 2019). In order to depict CTTO as a commons, we must show how relationships produced within the community are reciprocal and generative, relying on communally controlled resources.

3.1 Governance and Hierarchy

Commons are governed by commoners, who exercise decision making control over the use and protection of the commons without a coercive command structure (Bauwens, 2019; Standing 2019; Ostrom 1990). This does not mean commons are governed without structure, but rather that the labour required to reproduce the community and protect the commons is based on consensus and democratic process. This is the role of stewards, commoners who perform the administrative and reproductive labour that sustains the commons (Standing, 2019).

CTTO lacks the kind of governance structure that many non-profits in Canada must adopt; there is no mandate, no elected officers, and no board of directors. Instead, members of the community are invited to attend monthly "co-organizer meetings" (there are no prerequisites). As stewards, co-organizers perform the reproductive labour of the community by volunteering to fill "roles", to take responsibility for finding speakers and venues, ordering food, emceeing hacknights, etc. These roles are filled in one month or 6 month terms, with the understanding that the roles should not be overwhelming, and that peers are available for support. The casual nature of commitments to CTTO can be contrasted even within the civic tech movement, as several CTTO organizers who attended a 2019 Code for America Summit remarked upon how "burnout" was much more prevalent in the more hierarchical Code for America brigades. The same is true for CTTO's "participants", a term I have chosen to reflect the openness and ambiguity of the community- there are no formal conditions that could discern "members", and regular attendance has little bearing on access to, or standing in the community.

CTTO is a highly pluralistic environment where purpose is understood in various complementary ways. This pluralism is readily evident in decision-making, which is generally based on trust and on a rough consensus, but also in the way that co-organizers bring their own perspectives to speaker booking and onboarding presentations. While at times the "flat" or "horizontal" organizational structure has been viewed as leading to inefficiencies (although we should not forget that most of the volunteers also work elsewhere full time), it is also seen as a central feature of the group. Of course, hierarchies still exist at CTTO, usually based on duration of participation, where historical and cultural knowledge is viewed with some deference, even though this contrasts with the voluntarism encouraged by members. In part, this could be because cultural transmission is so central to the reproduction of the community; without a specific purpose or mandate, participants must learn about the values, norms and vision of CTTO from others.

This also means that the capacities of CTTO are dependent on volunteer skills, which creates inertia to improving the commons over time. For example, much of the technology used by CTTO is gratis, but proprietary, and co-organizers have been observed to trade off intentional choice of technologies in favour of what comes to mind. This is likely connected to the availability of labour time and expertise needed to maintain a Free and Open Source Software (FOSS) ecosystem and to support projects and organizers to draw from and contribute to these other commons. Part of identifying as a commons would mean that CTTO was more focussed on drawing from and contributing to other commons, such as FOSS, and would need to build at least some stable capacity for this. It also makes systematic interventions more difficult, since beyond mere reproduction, time is frequently in shortage.

Above all, co-organizers ensure that CTTO participants have reliable access to hacknights and resources that would facilitate their work. In CTTO, some resources are assembled by organizers to reproduce the community, and others emerge from those conditions. Hacknights are also supported by layers of documentation and infrastructures. Automated processes connect new members to the Slack workspace, and Google slideshows and documents are duplicated each week to create an ad hoc archive in an enormous Google Drive where elaborate plans and long agendas coexist with fragments and empty folders. A Github organization which serves as a partial archive of CTTO's contributions to open source code. CTTO remains attached to the paid services like meetup.com to publicize its events, which occur on Zoom. A Slack with over 2500 members (but not all active!), serves as space to share information about events and jobs, and where and where co-organizers and project leads plan for the next hacknights.

At the hacknights, projects are supported through access to a stable time, a suitable workspace, a meal, and with a steady supply of new attendees that could become potential collaborators. Projects can also benefit from the use of CTTO's digital assets, lowering the overall administrative overhead. While in some cases, projects adopt their own communications infrastructure, some mature still make use of the CTTO Slack, where they host open Slack channels to easily publicize their events and calls for participation to the larger community. Even the hacknight documentation itself has shown to be a valuable common asset for other groups, as the hacknight and Civic Tech 101 slideshows have been forked and reused by groups like Code4DC[18] (Code for DC, 2020) and the newly founded Civic Tech Montreal[19] (McLennan, 2020).

3.2 Community as Resource, Commons as Platform

Commons are always social arrangements that produce and reproduce relationships among commoners, in addition to producing material outcomes. Hardt and Negri refer to this as "social production," where the value of labour comes in the form of new relationships (or even in the software-led stabilization of relationships) rather than in the production of material goods /per se/. When production occurs between autonomous peers, the value produced is inseparable from the relations that produce it (Hardt, 2017).

Describing itself as an "umbrella of connections and resources," CTTO acknowledges the centrality of relationship building to its productive activity by creating a time and space for self directed work and learning, participants engage with each other in cooperative activities, sharing skills and developing ideas in projects. Participants often attend with a mind to developing skills, and are afforded opportunities to practise in a low pressure environment on projects, and in cooperation with peers who may have already developed these skills. The casual nature of collaboration at CTTO has been noted as particularly important by participants, as it allows them to explore interests without the stress of a hierarchical workplace where the stakes of "failure" to deliver are higher.

Bauwens et al. write that "CBPP is in principle open to anyone with the skills to contribute to a joint project... CBPP allows contributions based on all kinds of motivations, but most importantly on the desire to create something mutually useful to those contributing" (Bauwens 2019, p.11). At CTTO, all participants can be understood as contributors, offering their time, skills, and labour to projects and to organizing tasks. While there has been no systematic analysis of motivations of CTTO participants, conversations at hacknights, especially during introductions and onboarding, have participants expressing their desires to contribute their skills to projects they saw as more valuable than what they experienced at their workplaces, or to address civic issues that they feel passionate about. Project focus is also varied, there is no mechanism to decide what is and isn't civic tech, especially if people show up to CTTO to work on it. If we take a selection of past and present projects as examples of what CTTO finds meaningful, we find the same coherent pluralism that we find in speakers: technologies to help the city maintain infrastructure, chatbots to support people experiencing homelessness and intimate partner violence, decentralized and community controlled internet, resources for accessing democratic and legal rights rights, support for popular participation in data governance, tech mentoring for at risk youths, a website to amplify the voices of women and people of colour in tech industry, etc. The common thread is a focus on creating value for each other, rather than profit.

CTTO Hacknights also act as a "contact zone" for different social worlds (Thoutenhoofd, 2007), where a diversity of interests and skills provide opportunities for organizations, as well as individuals. For example, non-for-profits and civil servants can present their work-in-progress and receive feedback or even long-term engagement from experienced practitioners, as was the case with a secure messaging service with the The Ontario Coalition of Rape Crisis Centres (Civic Hall, 2020), or Bikespace[20], and app developed through a Code for Canada mediated partnership between CTTO and the City of Toronto. Overlap between CTTO and government is common: public servants in the provincial and municipal governments are frequent co-organizers, presenters, and participants. However, the relationships between government and CTTO remain largely informal, caught up in the reciprocal cooperation that the hacknights afford.

The productive activities of CTTO exemplify CBPP: they are based on voluntary association, supported by a community administered digital infrastructure, and set the stage for cooperative and supportive relationships where technologies are developed based on shared values and a desire for meaningful contribution. To complete this framing, we must explore how CTTO can be productively situated in a normative vision of transition toward societies and economies based on CBPP. That, however, requires an articulation of CTTO's proximity to contemporary transitions in governance that set the stage for the relations that could support systemic CBPP.

4 From Movement To Sector - Transitions in the Social World of Civic Tech

CBPP is a "prototype" for a mode of production that can gradually transcend the hierarchical forms of private property that dominate economies around the world, if it is not subordinated to these interests. This transition can be interpreted dialectically, as a negation (an "erosion" and "taming") of capital's totalizing Empire, and as a negation of a negation, a reprisal of communal relations of reciprocity but at a "higher level of complexity" that is supported by technological infrastructures that can secure livelihoods through CBPP at scale (Bauwens, 2019). Crucially, this transition is not viewed as a social process extraneous to the state, but rather as an approach to governance that requires constructive cooperation between commoners and their states. The "Partner State Approach" (PSA) sees the state as the key site of intervention and gives it a role in creating the legislative conditions for an egalitarian mode of production, not primarily through the abolition of capital, but by supporting commoners and encouraging CBPP (Bauwens et al, 2015, 2019; Kostakis, 2011;). This transition starts from the bottom, where "citizen-commoners and their social movements would drive the existing state form into partner state forms" (Bauwens, 2019). A partner

state would use law and policy to act as a guarantor for the commons, securing the existence of a civil society oriented toward contributing to the commons, and encouraging "generative market" that eschews the necessity of hierarchical private firms in creating value (Bauwens, 2019).

The magnitude of this transition is hard to overstate, given the way that technology and profit are so closely linked in Toronto. Speaking at a tech industry event in the winter of 2020, where founders and would-be entrepreneurs gathered to celebrate their achievements by "taking over city hall," Toronto Mayor John Tory was succinct in his connection between Toronto's prosperity and the technology industry. Speaking to his embrace of companies like Uber, Tory's strategy was to "send a signal to the world that we were embracing innovation, rather than turning it away," travelling around the world to convince technology start-ups and companies to base themselves in Toronto, and leveraging universities to supply workers for these firms. Looking for "true partners", his goals were to secure their shared "value-set" and a "top quality of life," while also nodding to the erosion of institutions such as transit and the continually worsening housing and affordability crises, catalysed in part by a decades long influx of capital (Tory, 2020).

Undoubtedly, profit-driven model of development produce technological innovations that provide livelihoods and create more efficient services for some even as they further entrench inequality and precarity for many others. But this is one way of designing sociotechnical systems that reproduces specific kinds of relationships; there are other ways of innovating and improving our cities and communities that begin with much different kinds of priorities and assumptions-- even if we, as commoners, are still learning how to work together effectively, and still struggling to secure their viability. That being said, it is hard to ignore, even if it is hard to pin down, the value of CTTO as a socially productive commons, which has provided learning experiences to thousands of attendees, hosted and supported numerous exemplary projects, and whose hacknights have been the backdrop for some major transitions in governance.

In 2017, hundreds gathered at a CTTO hacknight #109 to celebrate the creation of the Ontario Digital Service, which secured a commitment by the public service to building in-house technology capacity that would allow for "rapid prototyping, Agile development, user research and service design" (Abdulla, 2016) and the hiring of the province's first Chief Digital Officer, Hilary Hartley, who championed the usefulness of human centred design and Agile development for government (Hartley, 2017). This was an important moment for CTTO, as it gave legitimacy to their view that governments must transform the way they develop technology to be more responsive to civic needs. Among some of the first ODS employees were CTTO members, and crossover between CTTO and the ODS continues to this day.

Also in 2017, CTTO founders and organizers also founded Code for Canada (C4C)[21], in partnership with the government of Ontario. C4C is a not-for-profit that has since worked with public servants to build technological capacity in government, through a fellowship program, a "civic hall" that offers memberships based training for public servants, and a user testing service GRIT. This was another legitimization of the CTTO community, recognizing the value of collaborating with smaller firms focussed specifically on applying tech and design expertise to government. Both of these events were a significant achievement of CTTO's 2016 goal of "creat[ing] conditions in which civic tech can thrive in Toronto and beyond," but as I argue below, the goal of "supporting Torontonians in becoming better-equipped to make changes in the city" requires continual recommitment.

In some ways, the founding of C4C and the ODS mark a transition in civic tech as a sociotechnical imaginary, and a fragmentation of the social world (Strauss, 1982). On the one hand, there is a civic tech community that is focussed on creating an inclusive space for laypeople, technologists and expertise to intermix, share expertise and perspectives, and collaborate on projects. On the other

hand, civic tech was also emerging as a "sector" of economic production, with new firms focussed on interfacing with the organization of government, providing products, services, expertise and training. This transition is readily evident in the United States, where prominent civic tech institutions like the New York Civic Hall write reports addressed to the "civic tech sector" (Nucera et al., 2019). In contrast to civic tech as-a-movement, civic tech as-a-sector (sometimes called "govtech") is led by experts. Commitments to open and participatory design notwithstanding, it does not seek to mobilize laypeople to express their political agency through technological experimentation or discussion (with notable exceptions, such as C4C's user testing service GRIT, which enlists a diverse range of users to provide data in technology development).

While the legitimization of civic technology as an economically valuable activity is significant, so too is loss of focus on the emancipatory claims of the early civic tech movement. The values animating these two civic techs remain similar, even if their approach differs, and though sectoral civic tech is perhaps more effective in generating technological transactions and contracts, the focus on cooperation and education has been partitioned from the parts of civic tech that are seen as legitimate technological endeavours. For Bauwens et al., CBPP takes place in an "ecosystem consisting of three institutions: the productive community; the commons-oriented entrepreneurial coalition(s); and the for-benefit association." (Bauwens, 2019; p. 15). Can we understand CTTO as situated, or even potentially situated in such an arrangement?

In this taxonomy, CTTO, particularly the co-organizers, fill the role of the productive community, organizing contributions and setting the stage for CBPP through their reproductive labour at hacknights. While members of the productive community are in this case, totally unpaid (in part because of historical commitments and reticence to monetize the community and its work), all are committed to a vision of the use-value of the community, even if those visions are pluralist and complementary. CTTO itself organizes the community through the creation of hacknights that create the foundations for projects, in terms of time, space, resources, and commoners.

The "entrepreneurial coalition... attempts to create either profits or livelihoods by creating added value for the market, based on shared resources" (Bauwens, 2019). In the case of CTTO, this role is filled by projects, who use commons produced by CTTO to organize labour and generate civic technologies to address issues their participants find worthwhile and meaningful. CTTO relies on entrepreneurial activity for all of its functions, from co-organizing to projects. CTTO projects generate value through collaboration, rather than extracting it from labour. While there is no rule that CTTO projects cannot be for-profit, projects that grow to the point of independence from CTTO generally share many of the values of the commons, and if they become entities at all, often become not-for-profit firms. This has been the case with projects like Ample Labs[22] and Law and Design CoLab[23], while Toronto Mesh has remained an unincorporated collective, and BikeSpace now exists primarily as an open source repository. That being said, CTTO could serve the role of an entrepreneurial coalition as well by operating as a "Open Cooperative" that could federally organize projects to ensure contributions are made back to the commons. This would require a revision of the governance structure that could officially recognize and incorporate projects into governance, since they are for the most part autonomous of co-organizing activities.

Articulating a for-benefit association for CTTO is a normative exercise that requires speculation not only on the overall purpose of CTTO, but also on the tactics and interventions best suited to fulfilling that purpose. A for-benefit association operates at a structural level, influencing policy and maintaining a cooperative infrastructure that sets the stage for CBPP at the lower levels, such as in local civic tech chapters by "[protecting] commons through licenses, ... manag[ing] conflicts between participants and stakeholders, fundrais[ing], and assist[ing] in the general capacity building necessary for the commons in particular fields of activity (for example, through education or certification)" (Bauwens, 2019; p.19).

Organizations like Open North perform some of these functions in Canada, operating at the level of standards in civic tech domains like open data, smart cities and AI ethics[24]. But Open North does not make any claims to being a guarantor or steward of the civic tech community or movement in Toronto or nationwide. That role is claimed by the organization Code for Canada (C4C). Part of the C4C mandate is the maintenance of the "Civic Tech Community Network," (CTCN) intended to support and proliferate grassroots civic tech chapters such as CTTO. This is accomplished through the provision of resources for starting new chapters, showcasing past and present civic tech projects and hosting quarterly organizing calls. Outside of the CTCN, C4C has achieved great success through their fellowship program that places tech expertise into government departments for short-term interventions and training programs for public servants. C4C can achieve these kinds of productive partnerships because of access to resources like full-time staff in outreach and partnerships and relationships with public servants, some of which are a direct result of the networks created through communities like CTTO.

As a somewhat loosely knit group of volunteer organizers, being seen as a stable and effective partner for governments is a major challenge for CTTO. As one longtime contributor to CTTO has remarked, it is difficult for individuals to speak on behalf of such a diverse and pluralistic community. In general, CTTO lacks the capacity and standing to be legible as a potential partner or as an effective lobbying agent, in part because its decentralized and non-hierarchical structure makes it hard to act with any unifying agency. By contrast, other civic tech groups like Code for DC and Civic Tech Fredericton have a history of productive partnerships with state and nonstate actors, in part because members contribute work hours and professional finesse to make these partnerships happen. Perhaps in some cases, an intermediary is needed, as when C4C acted to secure a paid project manager for CTTO's Bikespace project, which filled a need in Toronto and contributed to the commons, the code being forked by the city of Edmonton as well.

5 Forms for the Future

In March 2020, immediately following Open Data week and the Code for Canada yearly summit, the COVID-19 pandemic drastically changed social realities around the world. For CTTO, this was no different. Repurposing assets and making quick decisions, CTTO went fully virtual over the course of a week. Hacknights continue to bring in speakers and offer a space for projects. But there will be no return to normal. When we begin to leave our houses and to congregate again, the true damage of COVID-19 will become visible in new ways.

Long periods of lockdown and quarantine have changed the way we relate to each other in public and groups, demanding communities re-imagine themselves according to the affordances of video calling and streaming platforms. The pandemic has magnified social inequalities and accelerated the erosion of our common well-being, forcing many workers into isolation and precarity. The changes have also been felt at civic tech, where virtual calls that closely track the affect of work meetings and make the intellectual and social labour of civic technology less fun, and more abstract.

The pandemic has also shown the importance of the reproductive labour of the commons, including the social and emotional support we offer to one another as friends and peers that make hacknights such a vibrant and inclusive space (Teixeira, 2020). Still, the community has sought to experiment with new forms of productive and affirming relationships. CTTO has remained remarkably resilient, and with the continued work of co-organizers, will survive as long as hacknights bring in new members and make new relationships. Even as we welcome new organizers into the community, it is difficult to translate the dynamism of the "before times" to new members, especially without a coherent vision of what CTTO "is".

Seeing CTTO as a commons, as a space for CBPP, is one attempt to secure the ideals of the community up to this point, and to offer visions for the future. If we are not finished with the futures that CTTO imagines, if we still believe that creating an diverse and inclusive space at the intersection of democracy and technology is still a worthwhile project, then we must work to protect the spaces where these futures are performed. This will mean finding ways to negotiate with CTTO participants past and present, to create a strategy for commoning CTTO that is principled and pragmatic. It will require the support of allies inside and outside of government, of civic tech as a sector and as a movement.

CTTO is merely one node, one potential commons, in a cooperative network that begins to collapse political subjectivity with economic activity and social reproduction. Since its inception, reflexive members of the community have realized that as a community of experts in policy and technology, civic tech was bound to fall short of its ideals of widespread cooperation and solidarity (Tauberer, 2016). This may be partially true of civic tech as a sector, but it is not necessarily true of civic tech as a movement based on affinity, encouragement and cooperation. Maintaining spaces where political performance and civic education can be performed is always necessary to support civil societies, and creating and maintaining commons is necessary to create commoners.

In many ways, CTTO can do better, but not without support. There is a lot of work to be done. Security of infrastructure, both virtual and physical, could lower the amount of administrative labour that occupied co-organizing time. Monetary or in-kind commitments from government and other beneficiaries can make CTTO more accessible by creating a sustainable pool for speaker honorariums, or even to offering some degree of livelihood for the many commoners who dedicate their time to the community. This must always be weighed against CTTO's historic aversion to monetization, but concepts from CBPP like Open Cooperatives and for-benefit associations suggest goals and tactics that would legitimate the work of CTTO and of civic tech chapters across Canada, while entrenching, rather than compromising, on our principles and commitments.

Above all, we must continually be searching for new ways of realizing the power of our communities, by supporting and amplifying champions in struggles for social justice, such as the movement for Black Lives, mutual aid networks supporting people displaced and living in encampments in Toronto like the Encampment Support Network[25], gig worker union drives like Foodsters United against exploitative technological systems[26], and by living up to our treaty obligations to the Indigenous peoples of the Great Lakes Region.

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External Links

- [1] Civic Tech Toronto - <https://civictech.ca>
- [2] Alternative Toronto - <https://www.alternativetoronto.ca>
- [3] Black Futures Now - <https://mbf.blackfuturesnow.to/>
- [4] Indigenous Friends - <https://indigenousfriends.org>
- [5] IntersectTO - <https://intersectto.gitbook.io/community/>
- [6] Digital Justice Lab - <https://digitaljusticelab.ca/>
- [7] #BlockSidewalk - <https://www.blocksidewalk.ca/>
- [8] Tech Reset Canada - <https://www.techresetcanada.org/>
- [9] EDGI - <https://envirodatagov.org/>
- [10] HousingNowTO - <https://createto.ca/housingnow/>
- [11] Davenport Mutual Aid Network - <https://davenportmutualaid.ca/>
- [12] FreeGeek - <https://www.freegeektoronto.org/>
- [13] Wireless Nomad - https://en.wikipedia.org/wiki/Wireless_Nomad
- [14] Freenet Toronto - <http://www.torfree.net/>
- [15] Wireless Toronto - <http://wirelesstoronto.ca/>
- [16] Toronto Mesh - <https://tomesht.net/>
- [17] Our Networks - <https://ournetworks.ca/>
- [18] Code for DC - <https://codefordc.org/>
- [19] Civic Tech MTL - <https://twitter.com/civictchmtl>
- [20] Bikespace - <https://www.bikespace.ca/>
- [21] Code for Canada - <https://codefor.ca/>
- [22] Ample Labs - <https://www.amplelabs.co/>
- [23] Law and Design CoLab - <https://lawdesigncolab.ca/>
- [24] Open North - <https://opennorth.ca/>
- [25] Encampment Support Network - <https://www.encampmentsupportnetwork.com/>
- [26] Foodsters United - <https://www.foodstersunited.ca/>

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