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Baack, Stefan

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PRACTICALLY ENGAGED

The entanglements between data journalism and civic tech

Stefan Baack

This article explores the entanglements between data journalists and civic technologists. Following an approach inspired by practice theory, it describes how they form a community that comes together through interlocking practices and complementary values and ambitions. Data journalists and civic technologists interlock along a continuum that oscillates between practices of facilitating (enabling others to take action themselves) and gatekeeping (being impactful and steer public debates). Depending on how much emphasis is put on either facilitating or gatekeeping, four different groups are identified that differ in how they position their work, in their professional self-understanding and in how they use data: Normalizers, Experimenters, Translators and Facilitators. The article concludes by suggesting that actors populating this community of practice can be described as flexible data professionals who aspire to work in a public interest. The findings illustrate how the progressive datafication of social life creates new entanglements between the field of journalism and civil society and we should pay more attention to such entanglements and the implications for increasingly datafied publics.

KEYWORDS boundaries; civic tech; data activism; data journalism; datafication; open data; open source; practice theory

Introduction

In July 2009, Alan Rusbridger, editor of *The Guardian* at that time, gave a keynote on “Why Journalism Matters” (in MediaStandardsTrust 2009). He opened with stating that newspapers used to be the gatekeepers of data and official information, but that has changed. He gave three examples: the problem-reporting website FixMyStreet, the parliamentary monitoring website TheyWorkForYou, and the hyperlocal website EveryBlock. For him, they are examples of changes in “how information is organized, personalized, ordered, stored, searched for, published, and shared”. They are “dealing with facts, with statistics, with information about public life, politics and services” and have many things in common with “conventional journalism”. With a mix of excitement and uncertainty, he concluded: “I don’t know if that is journalism or not. I don’t know if that matters”.

Today, the examples given by Rusbridger are commonly referred to as “civic technologies”: technologies developed by non-profits, companies or governments themselves trying to make it easier for citizens to engage with their governments. Rooted in

small volunteer experiments in the early 2000s in the US and the UK, the civic tech sector has grown substantially and one can find civic tech organizations in almost every part of the world today: non-profits funded by foundations like the Open Society Foundation, startup companies, initiatives by huge corporations like Google or Microsoft, and by governments (especially in the US).

Rusbridger's speech is one of many examples to show that civic tech had a close relationship with journalism early on: journalists have increasingly adopted practices and ideas from civic tech, use civic tech applications for their own investigations, and occasionally directly cooperate with civic technologists; while civic tech organizations like mySociety, the non-profit organization that developed FixMyStreet and TheyWork-ForYou, encouraged journalists to use its tools in various ways or sought cooperation with media organizations. For Alexander Howard (2014, 64), who has been active in both fields, the parallels "to what civic hackers are doing and what data journalists are working on is inescapable". Both are related to the "civic" and public life, advocated for freedom of information and transparency, trying to provide a public service that empowers citizens, and both fundamentally rely on data (Schrock 2016).

Yet we know little about how civic technologists and data journalists relate to each other's work, how they complement each other, and where they differ. To a large extent, research in journalism studies has concentrated on how data journalism is practiced *within* newsrooms (Fink and Anderson 2015). How data journalism is shaped by, and shaping, other fields in the technology sector was a relatively marginal concern, despite the fact that it is largely acknowledged that the news-making-process is "increasingly shaped by networked forces...that span multiple professional identities, information ideologies, and assumptions about how news and public life intersect" (Ananny and Crawford 2015, 192–193). It includes not just journalists, but a great "diversity of actors, discourses and relationships" (Domingo, Masip, and Meijer 2015, 53) that influence how news is found, produced and circulated. Research on civic tech, on the other hand, concentrated on tracing its historical roots (Schrock 2016), understanding the users of civic tech applications (Cantijoch, Galandini, and Gibson 2016) or exploring its relationship to neoliberal government agendas (Bates 2012). Its relationship with data journalism has not been a primary focus.

Studying how data journalism and civic tech complement each other is relevant not just because there is a direct cooperation and overlap between them, but because this relationship is shaping how journalism and forms of civic engagement are responding to the progressive datafication of social life (van Dijck 2014). As a powerful emerging knowledge logic, datafication fundamentally affects how we collectively make sense of, and engage in our social worlds. Both data journalists and civic technologists aim to produce knowledge in the public interest and their entanglements affect the wider process of knowledge production and circulation in datafied publics. How does not just the reliance on data, but the way both fields *complement* each other, affect how they work?

Instead of looking at professional journalists and civic technologists separately as distinct fields, this article therefore looks beyond organizational boundaries and brings together perspectives from both equally to study the "open-ended range of practices" (Couldry 2004, 117) across these fields. It presents findings from a qualitative case study which explored how data journalists and civic technologists are making sense of their own practices and how they exchange, pick up, modify, reject and ultimately relate to

each other. First, I conceptualize these groups as forming a community of practice or figuration that revolves around data-related practices and overlapping social imaginaries. Then, four interconnected groups within this figuration are presented: Normalizers, Experimenters, Translators and Facilitators.

Methods: A Focus on Overlapping and Diverging Practices

To study the entanglements between data journalists and civic technologists, I took inspiration from practice-focused research paradigms that try to avoid “any apriorisms about the roles and practices of the multiplicity of actors” (Domingo, Masip, and Meijer 2015, 54). A focus on practices has been suggested by a number of researchers to avoid a priori delineation of actors based on predefined categories. Instead, it encourages researchers to be open to the full range of “what people are doing and how they categorize what they are doing” without predefining their actions in categories like “consumption” “whether or not that is how actors see their actions” (Couldry 2004, 125).

The findings presented here are the culmination of three distinct case studies on civic technologists and data journalists that mutually informed each other. The first case study explored the social imaginaries of the Open Knowledge Foundation Germany (OKF DE, Baack 2015), a non-profit organization and the most influential actor in the German open data movement. The second case study explored how civic technologists at the British NGO mySociety use data to realize their goals (Baack forthcoming). The focus on mySociety was informed by the first case study: mySociety is one of the oldest and internationally most influential civic tech organizations today that also had a huge impact on the German civic tech scene. Even some data journalists interviewed for this study pointed out its influence: “Back in 2008 and 2009, they [mySociety] absolutely were inspiring role models for me and other people I worked with” (Interview April 20 2016). mySociety represents an international “best practice” and exemplifies some of the main characteristics of civic tech.

The third case study, whose findings are presented in this article, compared the practices and perspectives of civic technologists with those of data journalists in Germany, mostly in Berlin. The data journalism and civic tech scene in Berlin was particularly interesting, first, because there is a high concentration of influential German and/or European data journalists (e.g. from Zeit Online or Journalism++) and a very active civic tech scene (the OKF DE is stationed in Berlin). Second, the exchange and collaboration between local data journalists and civic technologists is frequent and continuous, in part thanks to numerous local workshops or events like Hacks/Hackers (Lewis and Usher 2014). Third, the local data journalism and civic tech communities in Berlin are well connected within transnational communities, both online and through international events like the Data Harvest conference. The influence of the local scene and its embeddedness in transnational networks suggest that the findings presented here should be applicable and generalizable beyond the local settings.

I employed a qualitative mixed method approach. First, 29 interviews with 27 interviewees were conducted, the majority (22) face-to-face in Germany or in the Netherlands, the rest via Skype. I interviewed members of civic tech organizations, data journalists working in different organizational settings in Germany, and a couple of

actors active in both fields simultaneously. Key were questions about the professional identity and an in-depth exploration of a particular project. Second, most interviews included participatory mapping (Emmel 2008). The interviewees were given a blank piece of paper (or a link to a web application) and asked to draw a mind map of all the communities they belong to and other groups that influence their work. During the process, questions were asked to explore how they relate to the different groups they mention and how they see their role in relation to them. This helped to reconstruct their subjective sense of belonging and processes of “communitization” across organizational boundaries (Hepp, Berg, and Roitsch 2014). Third, I collected a range of online materials about each interviewee, such as social media profiles, interviews they gave elsewhere, articles they wrote or were written about them, slides and videos of presentations they gave. This material was collected and categorized to prepare each interview, and some of it was included in the analysis. Fourth, I conducted ethnographic research on several conferences (e.g. the Mozilla Festival 2015) and numerous local workshops in Berlin.

The analysis followed a constructivist grounded theory approach (Charmaz 2006) and was conducted with the help of the TAMS Analyzer (Weinstein 2006), a tool for qualitative data analysis. Grounded theory was chosen because its principle of theoretical sampling helped to explore the open-ended range of practices without applying pre-conceived categories. Theoretical sampling means that an initial data sample was continuously expanded with new data to systematically elaborate and refine the theory. *Constructivist* grounded theory in particular has a focus on capturing actions and fluid processes rather than static concepts, which was also the main focus of this study.

A Community of Interlocking Practices: Three Examples

When we look across the field of data journalism and civic tech, the connections between individuals rarely revolve around sustained and institutionalized engagement. The exchanges are mostly informal and shaped by what Shove (2003) would describe as an order and form of collaboration determined by the fit of one practice with another (cf. Couldry 2012, 42–43). Groups working in different organizational settings are able complement each other to some extent, allowing a seemingly seamless transition between civic tech and data journalistic projects. Let me illustrate this with three concrete examples.

YourNextMP: Providing Infrastructures for Journalists

For the elections of the British parliament in 2015, the British civic tech organization mySociety built YourNextMP, a crowdsourcing platform to collect details about every candidate in the upcoming election. At the time, there was no central database provided by the government and only a couple of commercial databases offered this information. The goal was to create an open database that everybody could use without restrictions. This would make it easier for others to “interrogate” candidates:

say you wanted to survey your candidates, or analyze their use of social media, or just find out who it is that's standing in your area, then that's very difficult to do unless there is a central database which does include all the candidates and all the constituencies. (Interview May 15 2015)

To further support such "interrogations", mySociety linked each candidate to information provided by its parliamentary monitoring website TheyWorkForYou, which gives detailed information about each candidate's voting behavior and access to their speeches in parliament. Moreover, it provided widgets that were used by some local journalists and activist groups to embed a list of candidates in their constituency on their websites. The database was widely used during the elections. mySociety essentially provided an infrastructure consisting of a database, tools for investigating (TheyWorkForYou) and presenting information (widgets) for journalists and activist groups.

Code for Germany: Local Laboratories of Informal Collaboration and Learning

In February 2014, the OKF DE launched the "Code for Germany" initiative as part of the "Code for All" network, which fosters civic tech ecosystems on city levels. To date, "Open Knowledge Labs" (OK Labs) exist in more than 20 cities across Germany. These Labs became one of the most important spaces for civic technologists and data journalists to meet and cooperate. Different to similar events like Hacks/Hackers (Lewis and Usher 2014), OK Labs are more regular and participants work on joint projects over longer periods of time. This creates a "knowledge infrastructure...which allows local match making...a meeting spot where different professions come together" (Interview March 11 2016).

As an example, the local newspaper Heilbronner Stimme and the local OK lab managed to establish a continuous, sustained collaboration. Members of the OK lab developed the technology, while journalists helped organizing, directing and publishing projects: "With my journalistic education, I was able to provide them with some structure and direction" (Interview May 13 2016). An example is a tool that allows users to specify their location to get detailed information about the quality of their local tap water. Civic technologists and journalists developed the tool together and the final product appeared on the newspaper's website. The journalists profited from the technological expertise, ideas and largely free labor of civic technologists; while the technologists were given a space to meet and feedback from journalists about the relevance and usability of their ideas: "It was a good combination...people from the open data community developed tools in their free time and we tried to get an audience for them and payed the developers sometimes" (Interview May 13 2016).

MinorInterpellations.de: Turning an Investigation into an App

In Germany, members of parliament can pose questions to federal or local governments in so called "minor interpellations". The German Green party used this mechanism to get data about the condition of every railroad bridge in Germany. However, the geolocations were encoded in a format developed by the German railway company

Deutsche Bahn. Journalists at Zeit Online took the data and translated this format back to standard latitude-longitude coordinates. After using this data for a story, the journalists were keen to share it: “We actually freed this data...It was really important for us to also publish it, so that other people can work with it as well” (Interview May 25 2016).

Later, this investigation was one of the inspirations for the OKF DE to develop *KleineAnfragen.de* (~“MinorInterpellations.de”), a portal that collects data provided by minor interpellations in federal and local parliaments. It allows users to search through minor interpellations across all German parliaments and offers email alerts for keywords. *KleineAnfragen.de* quickly became a standard tool for many of the journalists interviewed for this study.

Related to this example is how journalists and civic technologists complement each other’s information rights. The interviews provided several examples where journalists used their exclusive information rights to acquired data to then share it with civic technologists in joint projects. Meanwhile, the advocacy of civic technologists for stronger freedom of information legislations is much appreciated by journalists as they are “unlocking opportunities” (Interview May 26 2016) for them: “they are engaging in fights we would have to engage in otherwise” (Interview May 18 2016).

A Figuration Based on Complementary Skills, Attitudes and Ambitions

The examples above help to illustrate how specific projects (like YourNextMP), shared spaces and institutional support (Code for Germany), as well as engaged individuals help to bridge different organizational backgrounds and allow data journalists and civic technologists to complement each other. Underlying these examples are three broader themes that characterize the communities they form:

- (1) *Overlapping and transferable skills*: Technological skills like writing scrapers, cleaning, analyzing and visualizing data are essential for both groups, and they rely on the same tools and programming libraries for their work. The example of *KleineAnfragen.de* further illustrates an overlap in the use of information rights: knowing what can be asked (by law), what kind of data can be requested and where is essential for both data journalists and civic technologists. As an interviewee describes, the consequence is that “you really have people who come together in [Code for Germany] meetings and realize ‘Hey, we are actually doing the same thing’” (Interview March 11 2016).
- (2) *Commitment to learning and open source culture*: Because of the overlap in skills, data journalists and civic technologists primarily form learning communities that come together to learn new or refined ways to work with data. They share a strong motivation to “get better” and enjoy tinkering and exploring technology. They generally describe their work as a continuous learning experience: “What they [data journalists and civic technologists] share is a love for data and that they are not afraid to learn something new” (Interview February 18 2016). Directly related to this is a joint commitment to open source culture (Kely 2008). As Coddington (2015, 333) noted, the principles of open source “have been an important common ground for bringing together ‘hacks’ (journalists) and ‘hackers’ (technologists)”.

They enjoy sharing experiences (e.g. with free tutorials, “behind the scenes” articles, workshops), and they are committed to transparency by sharing source code and if possible their data (as in the example of the train bridges investigation). Both data journalists and civic technologists emphasized the collaborative and friendly nature among their peers (across institutions).

- (3) *Complementary ambitions*: The examples above illustrate how both groups easily conceive their work as complementary. KleineAnfragen.de shows how investigations by journalists can spark ideas for civic tech applications; YourNextMP shows how civic technologists understand their work as providing support for journalists or other activist groups. The collaboration at the Heilbronner Stimme can be described as a continuous exchange of ideas and a desire to complement each other. Underlying this ability to conceive each other as complementary is a shared “sense of moral order” (Taylor 2004). Both data journalists and civic technologists understand their work as a public service that holds powerful people or institutions accountable and supports an active and informed citizenry: “We have similar ambitions...it is about the empowerment of users, about giving them tools to search through and use the data themselves rather than just giving them a story or—from the perspective of activists—whatever authorities give them” (Interview September 23 2016).

The resulting community can be understood as a community of practice whose members are “informally bound by what they do together...and by what they have learned through their mutual engagement in these activities” (Wenger 1998). More precisely, the practices of individuals in this community “intermesh” and therefore form a *figuration* (Couldry and Hepp 2017). Figurations are connections between human actors based on meaning and interlocking practices. They are *relations of interdependence* that describe the “complex ways of interweaving human beings” (Couldry and Hepp 2017, 59). The boundaries of a figuration are defined by the shared meaning that the individuals involved produce “through their interrelated social practices, which is also the basis of their mutual orientation to each other” (Couldry and Hepp 2017, 63). Actors within a figuration are “intermeshing” in the sense that their paths “are comprised of interlocking *practices*...that interlock because, *as meanings*, they are in a mutual relationship, answering, inviting, challenging, questioning and so on” (Couldry and Hepp 2017, 65).

Shared Practices, Different Identities: From Facilitating to Gatekeeping

Figurations are never “flat”, they are characterized by a distinctive constellation of actors with an orientation towards a shared purpose, or what Couldry and Hepp (2017, 66) call a “relevance frame”. The figurations formed by data journalists and civic technologists involve complex distinctions that go beyond a simple contrast between “civic tech” and “data journalism”. At closer inspection, we can identify four different groups within this figuration. Each group represents a distinct articulation of a shared repertory of “images, stories, and actions” (Mansell 2012, 33) that comprises practices of *facilitating* and *gatekeeping* (Figure 1).

Facilitating means to provide users with services that help them to take action themselves: exploring how an issue affects their personal situation, offering “decision-making

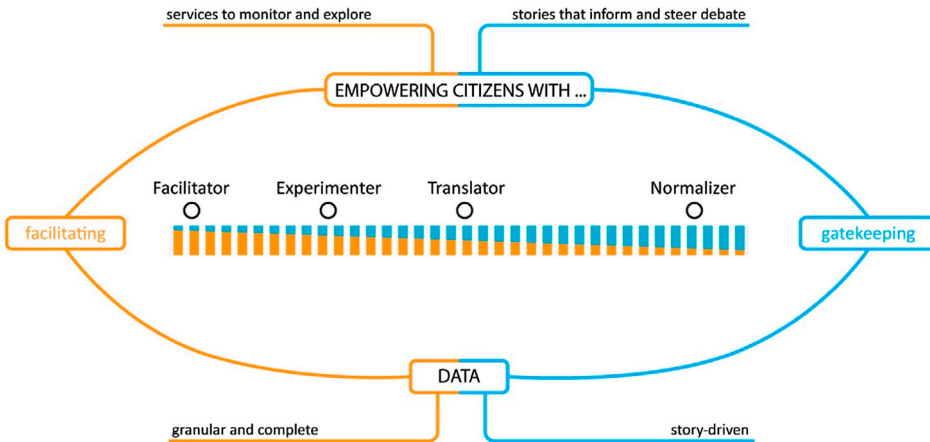


FIGURE 1

Figuration formed by data journalists and civic technologists.

tools" (Parasie and Dagiral 2013, 864), engaging them with their governments. Put to the extreme, actors on this end of the spectrum want to avoid standing between the citizens and their governments and merely facilitate their exchange. Practices of facilitating are rooted in open source or participatory culture (Jenkins 2006) and as such follow the logic of open participation "of achieving a more engaged, representative, and collectively intelligent society" (Lewis 2012, 848).

Gatekeeping, on the other hand, refers to the traditional journalistic role-model of being a gatekeeper for publicly relevant information. Actors on this end of the spectrum emphasize storytelling and impact. They want to inform their audiences about important events, provide guidance for public debate and affect policy-making by amplifying public issues or misconduct. Their professional legitimacy builds on actively standing between the public and their governments (as the "Fourth Estate").

Depending on how strongly they lean towards facilitating or gatekeeping, each group can be delineated along three categories. First, they differ in how they *position* themselves professionally. Towards gatekeeping, actors position themselves closer to the autonomous pole of professional journalism (Benson and Neveu 2005). With a stronger emphasis on facilitating, the lines between journalism and the wider technology sector become increasingly blurry. Second, they differ in their *self-understanding*: some understand their work as investigative journalism, others negotiate between journalism and civic tech and so forth. Third, they differ in their *data usage*. The distinctions here overlap with the different epistemologies among data journalists identified by Parasie and Dagiral (2013). Actors interested primarily in facilitating "put the emphasis on data granularity and completeness" (Parasie and Dagiral 2013, 863). Data ought to be "breakdown-able" so it can be analyzed and explored by others. The use of data by gatekeepers is story-driven: They use data to prove or falsify a hypothesis or to show the scope of a public issue to "inform public debate and influence the political agenda" (Parasie and Dagiral 2013, 860).

Note that the groups represent ideal types: abstractions and generalizations which are useful to categorize individuals without necessarily reflecting their own identity. In reality, the boundaries between these groups are blurry, but every interviewee had a clear bias that the classificatory scheme presented here captures. The scheme was developed by identifying the organizational and educational backgrounds of individuals as the most significant factor for determining similarities and differences among them. For example, journalists with a formal education in journalism working in established news media clearly position themselves towards gatekeeping, while those who emphasize facilitating have stronger roots in the technology sector and tend to work in more non-traditional setups like startups. Following grounded theory's principle of theoretical sampling, the classifications were developed by systematically exploring how data journalists in different organizational settings and with different educational backgrounds overlap or differ. The terminology was developed by the author on the basis of this analysis to capture how individuals understand and position their work. In the following, I will describe each group in detail (Table 1).

TABLE 1
Different groups within the figuration.

Group	Positioning	Self-understanding	Data usage	Working environments
Normalizers	Position themselves close to the autonomous pole of professional journalism and engage in boundary work	Traditional investigative journalists	Support investigative reporting	Established national news media organizations
Experimenters	Work within journalism but strong positioning in technology sector, question boundaries	"Technologists" working in journalism, problematize and renegotiate journalism	Create personalized services that help to make decisions or form the basis for public debates	Non-traditional and often experimental working environments
Translators	Well connected to both journalism and civic tech, stress complementarities and similarities	Simultaneously as journalists and technology activists	Combine investigative journalism with civic tech, linking gatekeeping and facilitating	Non-traditional working environments at the intersection between journalism and civic tech
Facilitators	Position themselves in larger technology and non-profit sector	Enabler of civic engagement and gatekeeping, tool-supplier for other organizations	Facilitate engagement and gatekeeping to promote a form of participatory culture	Non-profit organizations

Normalizers

I like data journalism because it's a return to the old virtues of journalism...I basically found everything I like about journalism in data journalism. That's why I got excited about it. (Interview September 23 2016)

Normalizers work in established national news media and emphasize continuity. They position themselves close to the autonomous pole of journalism and reflect a self-understanding that builds on a firm distinction between the "inside" and the "outside" of professional journalism. They think of data journalism primarily as a "methodological competence" (Interview May 26 2016) that helps to "supplement, routinize, or algorithmically expand the scope" (Anderson 2013, 1008) of existing journalistic practices and routines: "For me, it's a method I learn and work with, like a toolkit I use to tell the best story possible" (Interview August 05 2016). While some do appreciate the label "data journalist" to signal their methodological expertise, others reject it: "You wouldn't call a journalist doing lots of interviews an interview journalist...I'm just a journalist, without a prefix" (Interview August 05 2016). Several members of this group made this comparison, suggesting that data journalism is a method just as natural and "normal" to journalism as interviews.

Normalizers strongly identify with notions of watchdog journalism and firmly position themselves within the critical-monitorial tradition that shapes journalists' professional identity in most Western countries: "the ideal of journalism acting as 'Fourth Estate', with journalists voicing criticism and holding powers to account and, in so doing, creating a critically minded citizenry" (Hanitzsch and Vos 2016, 9). As data journalists, they are interested in gathering and analyzing data to scrutinize the performance of governments or other powerful actors. They subsequently are not "passive" monitors who only take action once they become aware of issues or misconduct, they "proactively scrutinize political and business leaders; they provide an independent critique of society and its institutions" (Hanitzsch and Vos 2016, 9).

An example is a story by Zeit Online on anti-refugee violence in Germany.¹ Journalists started with the hypothesis that authorities largely failed to identify and convict perpetrators. To test this hypothesis, journalists collected their own data and gathered information about the status and success of every investigation. During this process, they continuously checked if their hypothesis is confirmed, ready to cancel or readjust the investigation if it was falsified. The resulting story is a classic piece of investigative journalism consisting largely of text and a few visualizations that demonstrated the failure of authorities.

This story illustrates many characteristics typical to the work of Normalizers. First, it is proactive and investigative and uses data to uncover and scrutinize patterns to proof or falsify a specific hypothesis. Second, the use of data is story driven. Data is collected and structured in a way that helps answering the hypothesis and with the later visualization in mind. Third, the project discloses a previously unknown fact and uses data to both strengthen its truth-claim and to show the scope of the issue. As it is typical for investigative journalism, this work aims to be impactful by producing a "moral outrage" (Ettema and Glasser 1998) of the public which forces authorities to react.

When it comes to civic technologists, Normalizers are quick to engage in boundary work and emphasize their professional expertise that sets them apart (like objectivity and impartiality, ability to identify relevance etc.). While acknowledging overlapping goals, they are careful to point out that they do not embrace the political activism of

civic technologists and only cooperate under the condition that they maintain control over what is published. While emphasizing such differences to delineate their work, Normalizers are not trying to devalue the work of civic technologists. It is common among Normalizers to monitor what is happening in the civic tech scene (mainly via Twitter) and to be in touch with local civic tech groups through OK Labs or other informal meetings like Hacks/Hackers. They are interested in exploring how the work of civic technologists can complement their own work as “equal partners” (Interview May 25 2016), but with clearly defined roles and outcomes.

Experimenters

I think Adrian Holovaty said he tries to provide information that helps people make sense of their surroundings. That’s what we are trying to do and if it’s journalism or not I don’t care. (Interview March 29 2016)

Put simply, Experimenters are “technologists” who neither clearly identify with “journalism” (in the sense that Normalizers do) nor civic tech, but are interested in expanding data-driven computational techniques in journalism. “Journalist” is the official job title for most of them, but they are somewhat indifferent about terminology and problematize the meaning of journalism. While Normalizers think of data journalism as a method that helps to improve “traditional” journalistic storytelling, Experiments emphasize the technological and experimental dimension and understand it primarily as “doing journalism with structured data”.

Most members of this group have roots in the technology sector and did not have a formal education in journalism, and even those who do have a strong affinity towards technology and are self-thought programmers. They work in “non-traditional” setups like startups or highly flexible and independent developer teams within media organizations—conditions which are in many cases similar to those of civic technologists. Their networks usually display a broad range of different actors: from journalism to different NGOs, foundations, and technology meetups. Journalism does play an important role for all of them, but for some it is just one area among many.

Experimenters de-emphasize gatekeeping in favor of personalized services that facilitate their audiences, providing them with a new access and legibility of certain phenomena:

I don’t care how people interpret it, but I want to present the facts to them. The only impact I strive for is to enable people to see something that was invisible to them... one of the most important and central insights of data journalism is this: we don’t publish stories, we publish the tools we developed to understand the data ourselves. (Interview February 18 2016)

An essential aspect to this is personalization, i.e. the ambition to illustrate how a phenomenon affects the individual user so that “everyone can find the most relevant aspect for him- or herself” (Interview August 02 2016). As a result, Experimenters often rely on interactive maps, allowing users to zoom in or directly enter their post code. An example is the “noise map” developed by the local newspaper Berliner Morgenpost.² Using data provided by the city, this interactive map of Berlin uses colors to illustrate different noise levels on a street-level. Users can enter their address to check the situation in front of their own house.

By providing this type of individualized legibility and assessability to their audiences, Experimenters want to help them “making decisions” and provide a “basis of discussion” (Interview August 02 2016). Ultimately, Experimenters envision a “completely data-driven newspaper” (Interview April 20 2016), an idea first articulated by Adrian Holovaty (2006). It suggests that news media should become “trusted data hubs” (Lorenz, Kayser-Bril, and McGhee 2011) by using automation on a large scale to continuously collect data and provide a broad range of services giving “recommendations or predictions” (Interview April 20 2016). The prototypical example of this is EveryBlock in the US, originally created by Holovaty himself (Parasie and Dagiral 2013). Implicitly or explicitly, Experimenters share a belief that this type of personalized services will encourage citizens to engage in public issues because it shows how a complex and potentially abstract issue affects them personally.

While Normalizers use data from a storytelling perspective, Experimenters are interested in granularity and completeness that makes data “breakdown-able” to the individual. As Parasie and Dagiral (2013, 863) noted in relation to “programmer-journalists” in the US, they “believe that intelligibility is the result of affording access...to complete and granular data from which citizens are usually kept away”. What matters most is the depth and scope of the legibility and assessability afforded by structured data rather than its ability to strengthen truth-claims (Normalizers).

Experimenters do not see their emphasis on facilitating in opposition to traditional journalistic gatekeeping. On the contrary, it is seen as an expansion that will strengthen it. This is especially true for projects where journalists collect data themselves to make a previously neglected issue visible and challenge official data collection routines or the lack thereof (cf. Gray, Lämmerhirt, and Bounegru 2016). An example is the Migrants Files³, a project that collected data on migrants who died on their way to Europe. It started with taking and structuring data that was already available on diverse sources and eventually collected new data by monitoring news articles and transferring relevant information into a database. The project was Pan-European: different newspapers across Europe used the data to create stories interesting for their national audiences. The data collection process was both driven by the desire to capture the scope of the issue and the possibilities for generating stories. In such instances, the data-driven approach of Experimenters complemented the gatekeeping focus of Normalizers. This way, the work of Experimenters overlaps with those of Translators (see below).

Experimenters see their work as much more overlapping and complementary to civic tech than Normalizers do. By de-emphasizing the storytelling-aspect of journalism in favor of facilitating services, it is at times difficult for them to tell the difference to civic tech:

The question is: Can you call yourself a civic hacker when you work as a developer in journalism? I wouldn't call myself a civic hacker, but I also wouldn't mind if someone does. It's not all that wrong I think. (Interview March 03 2016)

The boundaries between civic tech and data journalism are blurrier for Experimenters. They work in the field of journalism, but their practices and self-understandings are much closer to civic tech. This causes some tensions: Some Normalizers are concerned about the de-emphasis on gatekeeping, while some Experimenters felt pressured to give their work a more “journalistic” outlook. However, there are numerous examples of how Experimenters are able to complement both Normalizers and civic technologists (as in the Migrants Files).

Translators

I saw that journalism is the logical consequence of this activism if you want to reach a larger audience. (Interview April 22 2016)

Translators are individuals actively involved in both civic tech and data journalism. They are similar to Normalizers in that they are strongly committed to investigative watchdog journalism and recognize journalism and civic tech as distinct fields. However, rather than engaging in boundary work and emphasizing distance and impartiality, their engagement in journalism and civic tech is inseparable. They either come from the civic tech scene and experiment with extending investigative (data) journalism with civic tech's emphasis on facilitating, or they are journalists who see their involvement in civic tech as a useful extension of their work. Put simply, they seek ways to integrate civic tech in journalism and help to connect both groups wherever possible. They tend to position themselves in the "hacker journalism" scene, or more generally at the intersection between technology and journalism.

Importantly, they do not work in traditional newsrooms but in settings that can be described as "intersections" between both journalism and civic tech. To illustrate this, I will focus on Correctiv, a nonprofit investigative newsroom similar to ProPublica in the US. Like ProPublica, Correctiv wants to support investigative journalism by specializing on long-term investigations which are shared with other media outlets. However, it extends the ProPublica model with an educational agenda:

We train people: we want to pass on our methods of investigation and help citizens access the information to which they are legally entitled. Our goal is to help citizens make society more transparent and so to foster democratic engagement. (CORRECTIV 2016)

Correctiv promotes the idea that "everybody can be a journalist. What matters is the use of the right journalistic methods" (Jonathan Sachse in CORRECTIV 2015). Journalism is implicitly understood as a method everybody can learn. Civic tech applications blend nicely into that rationale as most of them are "research tools" (Interview April 22 2016) that help both journalists and citizens to investigate or utilize data.

Given a mission statement and understanding of journalism that can be read as an attempt to balance gatekeeping and facilitating, it is unsurprising that Correctiv has very close connections to both journalism and the civic tech sector. Its offices are located in the same building as the OKF DE and Correctiv hired two of its former members, which have both been interviewed for this study. They describe their involvement in journalism as a "logical consequence" (Interview April 22 2016). It allows them to reach a larger audience, but more importantly, it is seen as a way to put their advocacy into practice. For them, data journalism at Correctiv is "applied civic tech" (Interview March 30 2016): "First comes the goal of informing people and disclosing misconduct, but of course I can still use the same means as before and show people that it is good that those are available" (Interview April 22 2016).

Correctiv's attempt to link strengthening investigative journalism with educating citizens leads to an incorporation of practices and applications inspired by civic tech. Several investigations follow an approach developed by ProPublica: collecting data to shed light on a phenomenon that lacks transparency, and then publish the database with tools to investigate it alongside the stories. An example is a large-scale investigation of nursing

homes in Germany.⁴ During this investigation, data was collected to get an overview of the sector and do an exploratory data analysis: How does the system work, what problems exist, what causes them and how could they be solved? The result is a series of stories, a TV documentary and an application that allows users to explore the data themselves. They can search for their city to get a map which highlights local nursing homes with some information, such as ratings or prices. Moreover, it offers a button to FragDenStaat.de (~AskTheState), the freedom of information website run by the OKF DE. Clicking on that button opens a pre-filled freedom of information request asking for nursing home reports. Once a request was successful, the new documents are automatically uploaded to the Correctiv's database.

This research tool is intended to help local news media to do their own local investigations, but it also clearly incorporates civic tech's emphasis on facilitating citizens and follows Correctiv's stance that everybody can be a journalist: "Being able to request more specific information, that's empowerment. It's exactly what mySociety or the Open Knowledge Foundation are trying to do" (Interview April 22 2016). Similar to the applications developed by Experimenters, this helps to personalize investigative stories by allowing users to check their local situation. However, it expands it by integrating a civic tech application (FragDenStaat) to enable users to request more information and do their own investigations. Traditional investigation for stories and facilitating users exist side-by-side and extend each other.

In its usage of data, Correctiv's investigations also emphasize the granularity and completeness of data, similar to Experimenters. However, different to Experimenters, granularity and completeness is rationalized here as *enabling (journalistic) investigations* rather than creating useful services for readers. In part, creating complete and granular data is a side-effect of Correctiv's focus on long-term investigations: it concentrates on a small number of broad subjects and big investigations for longer periods of time. By using a subject rather than a hypothesis as a starting point, journalists are gathering large databases to get an overview and conduct a more exploratory form of data analysis. At the same time, granularity and completeness also matters for Correctiv's mission to strengthen investigative journalism and educating citizens:

You could understand it as freeing data. We take data that was already available and put it into a form that allows people to investigate and compare it. We are creating a research tool for other journalists and citizens who are interested in this topic. (Interview March 30 2016)

Correctiv's services are not primarily intended to function as "decision-making tools", but as research tools supposed to enable others to do their own investigations. This way, Translators are again standing between facilitating and gatekeeping, emphasizing granularity and completeness as a basis for story-driven gatekeeping.

Facilitators

We're in favour of a vibrant, healthy, lively democracy. That means a rude and obnoxious place. Although we don't want to do that ourselves, it's entirely appropriate that we should facilitate other people to. (Steinberg quoted in Krotoski 2010)

As the civic tech scene is evolving and includes a very diverse set of actors (activists, corporations, governments), I will concentrate on mySociety, a non-profit organization from the UK founded in 2003 (Baack [forthcoming](#)). As mentioned above, mySociety is one of the oldest and most influential civic tech organizations today and exemplifies typical characteristics of civic tech.

Members of mySociety clearly position their work at the “facilitating” end of the spectrum: “we don’t want to get in the way. We don’t want to be the gatekeeper” (Interview August 21 2015). They do not want to influence policy-making or shape public debates, but provide the means that enable others to take action more effectively. The tools mySociety develops—for example problem reporting websites, parliamentary monitoring tools or freedom of information websites—are understood as services that empower citizens by letting them “see and be able to do what they are legally entitled to as easily as possible” (Interview August 21 2015). Most mySociety projects are intended to act like a “layer” that translates the bureaucratic and legal procedures followed by public institutions into user-friendly interfaces and accessible language.

Members describe their role as being “a tool supplier for other organizations” (Interview August 17 2015). They reject calling their work “journalism” and most of them do not have close ties to journalists. Overall, mySociety’s relationship with journalism is multifaceted. Depending on the project and the circumstances, journalists can be users of mySociety’s tools, customers of its (technical) services, collaborators and partners, or all of these roles at once (see YourNextMP example above). Beside the fact that mySociety is not trying to tell stories, one of the biggest difference members see to journalism is the “time scale” in which they work. Ultimately, mySociety is interested in creating a more participatory culture (Jenkins 2006) by making civic engagement easier and less time consuming for citizens. As mySociety’s former CEO put it, this requires changing “what is normal rather than what is exceptional” (Interview August 17 2015). Part of mySociety’s efforts is therefore to make users “feel” empowered in a psychological sense: it’s tools are intended to give them a “sense of agency” (Interview June 03 2015) by making engagement frictionless and demonstrating that their actions have an impact (Baack [forthcoming](#)). What mySociety is trying to achieve can be described as having “long-term impact”: a relatively slow change in perception of what is considered to be “normal” about civic engagement. This requires its services to be popular and reliable. For this reason, mySociety thinks of itself to be more similar to companies like eBay, Amazon or TripAdvisor than to news media companies.

However, while mySociety sees its own work as distinct and different, the work of journalists is also seen as highly complementary to its own mission. This is best illustrated by “Alaveteli Professional”, a version of its freedom of information platform specifically designed for journalists. In the announcement, mySociety describes the role of journalists as complementing its mission of facilitating engagement:

Citizen empowerment doesn’t always happen by direct interaction with institutions. Feeling empowered and capable of affecting what happens in your community requires knowing what’s going on in your community...it’s hard to imagine a future in which ordinary people can be well-informed, without specialists doggedly asking questions of power, putting information from different sources together, and helping make sense of what’s going on. (Crow 2016)

The (simplified) division of labor from mySociety's point of view correlates with the core categories identified here: mySociety as a civic tech organization facilitates citizens and professionals like journalists to take action themselves, while journalists inform the public about relevant events. mySociety primarily thinks of journalism as traditional watchdog journalism that acts as a gatekeeper to publicly relevant information. Normalizers identify with this ideal the most. However, when we take a closer look at the others groups within the figuration described here, we get a more nuanced picture.

With their emphasis on facilitating others through granular and complete data, both Experimenters and Translators are more similar to mySociety. The division of labor in these cases is more along the lines of applying "generic" tools and mechanisms of acquiring information or getting in contact with authorities (mySociety) vs the "practical application" of these tools and mechanisms in specific investigations. mySociety usually focuses on a small set of projects that should be generic and customizable to cover a broad range of use cases. Its use of data is therefore driven by a desire to scale technological solutions through standardization and reusability. By contrast, the extent to which tools and data formats can be standardized and made reusable in journalism (across all groups) is limited because "every investigation is different...has a different subject, requires different data, and has a different output" (Interview April 22 2016).

Correctiv's attempts to combine civic tech applications and investigative journalism and its relatively long-term focus on particular subjects creates expanded opportunities for sustained collaborations in joint projects with civic tech organizations like mySociety. It seems likely that the collaborations between civic tech and journalism will primarily happen around specialized media organizations that follow the ProPublica or other non-profit models (Konieczna and Powers 2016) and do not focus on daily news reporting.

Conclusion

This article showed how data journalists and civic technologists complement each other in numerous ways because they overlap in their practical skills and aspirations. It showed how they form a figuration that exists along a shared continuum that oscillates between practices of facilitating and gatekeeping. Differences in how these axes are weighted result in different groups or "articulations" within this continuum. Looking across organizational backgrounds and institutional settings, the individuals populating this community of practice can be described as *flexible data professionals* who aspire to work in a public interest: they share transferable skills in dealing with data and using information rights, and they want to use these skills to create public services that hold powerful people and institutions accountable and empower citizens.

The findings illustrate how practices of facilitating and of gatekeeping *complement* each other. What this article does *not* show is a weakening of gatekeeping in favor of open participation. First, while there are groups within the field of journalism with a stronger emphasis on facilitating, the majority of the interview partners were Normalizers who work in leading national newspapers. Together, they have a lot more authority to define and delineate "journalism" than the other groups, who work in more experimental and sometimes also more precarious environments. Second and more importantly, those who emphasize facilitating do not oppose gatekeeping.

On the contrary: they think of their own work as facilitating not just ordinary citizens, but also professional gatekeepers, best illustrated by mySociety's "Alaveteli Professional". By taking the potential for related gatekeeping into account, actors with an emphasis on facilitating contribute to a more transparent and participatory form of gatekeeping. On the other hand, actors who emphasize gatekeeping also take related opportunities for facilitating into account to allow readers to explore the reported issue and learn how it affects them personally.

Rather than thinking of gatekeeping and facilitating in terms of competing "logics" (Lewis 2012) or some modern reincarnation of the Lippmann-Dewey debate (Schudson 2008), this article showed how the ongoing datafication of social life allows them to exist along a shared continuum and *mutually reinforce* each other. The overlap in practical skills and social imaginaries helped making journalism as a professional practice more permeable to outsiders and allowed actors outside the field of journalism to increasingly engage in practices traditionally attributed to journalism, as Rusbridger noted (see introduction). At the same time, data journalists move closer to civil society actors like civic technologists and complement their work.

These findings illustrate how datafication creates new entanglements between the field of journalism and civil society. To understand how datafication affects public knowledge production and the assemblage of publics, we should not only study how the reliance on data changes individual actors or fields such as journalism. We also need to ask what connections and entanglements datafication enables and what the implications of those entanglements are for the actors involved and for increasingly datafied publics.

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NOTES

1. <https://www.zeit.de/politik/deutschland/2015-11/rechtsextremismus-fluechtlingsunterkuenfte-gewalt-gegen-fluechtlinge-justiz-taeter-urteile>.
2. <https://interaktiv.morgenpost.de/laermkarte-berlin/>.

3. <https://www.themigrantsfiles.com/>.
4. <https://correctiv.org/en/investigations/nursing-homes/>.

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Stefan Baack Centre for Media and Journalism Studies, University of Groningen, Groningen, The Netherlands. Email: s.baack@rug.nl. Homepage: <https://sbaack.com/>, Twitter: <https://twitter.com/tweetbaack>