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'Makers' of a future journalism? The role of 'pioneer journalists' and 'pioneer communities' in transforming journalism

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'Makers' of a future journalism?
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1   Introduction

The future of journalism has been one of the most intensely tackled questions for many years – within the field itself as well as among scholars. This sensitizes us to the fact that future developments do not just 'come' into existence. Far from it – sometimes decades will pass before transformations become tangible within a social domain where they are imagined as possible futures (Jasanoff and Kim, 2015). While such imagined futures are not typically realized true to their original vision, they offer an overall orientation for more general practices dedicated to transformation and change. As part of this orientation, imagined futures already have an influence on the present and effectively open up and shape avenues for genuine future developments and the future present. This interrelation is discussed with particular vigour in the discourse on the development of media technologies (Castells, 2001; Rid, 2017; Streeter, 2010; Turner, 2006). From this research, we can start to understand the deep influence certain 'individual pioneers' and 'pioneer communities' have on (the futures of) technology-related developments (Couldry & Hepp, 2017: 181-195; Hepp, 2016).

In this paper, we want to discuss the role pioneer journalists and the pioneer communities that they are part of may play in journalism's trajectory going forward. Journalism serves as an ideal case study for such an undertaking. This is because the transformation of journalism is entangled with the development of media technologies and is increasingly maintained beyond the newsroom by actors outside established media organisations, who are situated more at the periphery of the journalistic field not yet being part of the mainstream. For a couple of examples, one can look at the 'Hacks/Hackers movement' who are engaged in data- and technology-driven journalism (Lewis and Usher, 2014), or the 'Constructive Journalism Project' (www.constructivejournalism.org), which are both developing new forms of media coverage that integrates solution-focused elements (Haagerup, 2014). The starting point of our paper is that such forms of pioneering are a more general phenomenon in journalism. What pioneers or pioneer communities imagine is not a collection of straightforward 'models' that can be readily applied to current mainstream journalism, but something that is likely to have a remarkable impact on discourse surrounding its future – something that signals developments and practices of pioneers and innovators at the periphery that push towards the centre.

We explicitly see this approach as a move beyond what Deuze/Witsche (2017: 4) call 'the false core-periphery-dichotomy' in journalism studies. Even though we fundamentally share this critique of static thinking, we do not understand the core-periphery duality as a dichotomy with a clear-cut distinction. Rather, we want to make the point of rethinking the tension between what is called 'centre' and 'periphery' as a dynamic one. This dy-

namic relationship is characterized by different mutual influences and balances, stability and change: Referring back to the terminology of Norbert Elias and John Scotson (1994), what in journalism studies is called 'core and 'periphery' is a dynamic figuration between 'established' and 'outsiders', a dynamic which is at the centre of our understanding of pioneer journalism. On the one hand, what we (used to) understand as the 'core' of journalism are 'established' media organisations and, on the other hand, more current and innovative forms of journalism emerging from the 'outside' of what we traditionally understand as journalism, journalistic organizations, journalists, journalistic tasks, or journalistic content.[1] Investigating pioneer journalism means to address this dynamic figuration.

Based on qualitative interviews conducted in the Bay Area (USA), Berlin (Germany), Lisbon (Portugal) and Perugia (Italy), we will present an analysis of how such pioneer journalists interact and imagine the future of journalism. First, we will reflect in more detail on the role of 'professional pioneers' in journalism. From this basis, we will explain our methodological approach and the foundations of our data. Arguing alongside five extreme cases of pioneer journalists, we will discuss in more detail how they act and which futures of journalism they imagine. Based on such an analysis, we will come to some more general conclusions about the role of pioneer journalists and their pioneer communities as 'makers' of a future journalism.

2   Professional pioneers in journalism: Pioneers journalists and pioneer communities

The transformation of journalism is inextricably interwoven with the transformation of the media environment. This reflexive relationship affects how journalism is produced, distributed, and used by audiences (for a historical perspective see Birkner (2012), for latest perspectives on this see Boczkowski and Anderson (2017). Since the 1990s the major challenges confronting journalism – and research into it – has been seen in the developments around the internet and the new communicative conditions that came with it (for an overview see Mitchelstein and Boczkowski (2009); Kramp (2015); Loosen (2015)). These circumstances are reflected in the entire field of journalism research and have become 'materialized'; for instance, in the gamut of current handbooks such as 'Digital Journalism' (Witschge et al., 2016) and 'Digital Journalism Studies' (Franklin and Eldridge II, 2016). One dominant lens in this kind of research is to investigate the ways journalism is adapting itself to the changing media environment, expanding to the online realm, and how it takes advantage of or is disrupted by digital technology-driven changes that affect the entirety of society's communicative conditions. Altogether, these developments underline the fact that journalism is inherently a media phenomenon and is, as such, simultaneously a driver

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[1] Görke (2009: 82; own translation), for instance, speaks of the 'cluster core' and the 'cluster periphery' of journalism: The cluster core is represented by news journalism and objective reporting, for example. This is not because it would represent the ideal form of journalism, but because it follows relatively stable (not: invariant) routines and forms of presentation, increasing its recognition value as news journalism. The cluster periphery, on the other hand, is a kind of 'swirling zone' (ibid: 85, own translation) in which less rigid forms can also be developed and tested. Forms, some of which can also migrate to the core and become mainstream as we have observed, for instance, in the case of practices such as blogging (Singer 2005) or tweeting (Lasorsa/Lewis/Holton 2012).

of media change and is driven by it. Such driving forces do not become visible at one certain point in time; rather, they are pushed by certain actors and take place in different areas of, as well as beyond, the journalistic field. We argue that 'pioneers' – as driving forces of (media) change in journalism – play a crucial role in these processes and that acknowledging these particular actors helps us to better understand journalism's transformation.

When it comes to media change in general – especially in relation to the latest media technologies – the role of 'pioneers' is an anticipated but still largely undertheorized phenomenon. Surprisingly, this is also true for journalism studies: even though many studies in the field focus on newsroom innovation (e.g. Boczkowski, 2004), they largely focus on how certain new media (technologies) diffuse through the field and, in stages, change professional practices (e.g. Ekdale et al., 2015; Hermida, 2013). However, within the field of journalism research, the role of pioneers in journalism and their possible impact on the future of journalism appears to have no clear research agenda (rare examples: Lewis and Usher, 2014; Kramp, 2016).

In contrast, prominent innovators have been the object of study in relation to media-related change for a long time. For example, there are arguments going back to Schumpeter (1934) that include the innovating, disruptive 'entrepreneur' as a main actor in the circle of transformation (Kramp and Weichert, 2012: 27-30). More detailed historical research reflects, for example, the role 'hackers' play as 'heroes of the computer revolution' (Levy, 1984). As the argument goes, certain types of people who imagined and practiced an alternative use of computer technologies (Coleman, 2013) were the secret 'pioneers of the computing revolution' (Davies, 2017: 31). An assortment of research has been carried out that focuses on different communities in Silicon Valley / the Bay Area around San Francisco (Castells, 2001; Kelty, 2014; Streeter, 2010; Turner, 2006). In a certain way, this resonates with more general research on a (transnational) 'creative class' (Florida, 2003) that pays particular attention to certain kinds of innovators that populate cities and more metropolitan areas (Krätke, 2011). From this research, we can deduce that it is worth analysing the role of pioneers if we want to anticipate the present and future developments of journalism. Such an approach is also consistent with arguments and observations that question the newsroom centricity of journalism research; that is, among other things, a strong theoretical and empirical focus on journalistic practices and the professional self-understandings of actors situated in the newsrooms of established legacy media while at the same time, journalistic or journalism-like practices are increasingly taking place elsewhere (Deuze and Witschge, 2017).

One of our main challenges, however, concerns the ways in which we define the social type of a 'pioneer' when it comes to (the profession of) journalism. As a phenomenon, investigating pioneers is a highly interdisciplinary field of research that is still in the making. Because of this, we are confronted with a remarkable fluidity of various, partly conflicting theoretical concepts that sometimes block a more inclusive rapprochement. This fluidity was already addressed some years ago when Sven Kesselring and Gerlinde Vogl (2004), for example, analysed the way media technologies support 'mobility pioneers'. Other research on societal transformation also places emphasis on the role of (everyday) pioneers (i.e. Gaved and Mulholland, 2008; Kangas, 2011), but unfortunately, without further theoretization.

In contrast to this research it is clear that pioneer journalists are *professional* pioneers: they take a 'forerunner position' within a certain line of business. With reference to more general reflections about pioneer communities we made elsewhere (Couldry & Hepp, 2017: 181-195; Hepp, 2016), we can define such *professional pioneers* as follows:

1. Professional pioneers construct themselves as people who take a *'forerunner role'* within a certain profession and are accepted in this role by other members of their field (but not necessarily all).

2. Within this profession they act as *intermediaries* (Bourdieu, 2010: 151, 325, 359; see also Negus, 2002; Nixon and du Gay, 2002; O'Connor, 2013), who in their pioneering practices interrelate between different spheres – often explicitly advocating for moving beyond their own field.

3. Professional pioneers are typically embedded within *communities of practice* (Wenger, 1999). Because of their orientation towards the future and change we can understand these communities of practice as *pioneer communities* (Hepp, 2006).

4. Within such communities, professional pioneers typically take on the role of an *organizational elite* (Hitzler and Niederbacher, 2010: 22). This means that they have an involvement in these communities, are experts with a far-reaching knowledge concerning the dominating topic of these communities, and are typically responsible for organizing their activities.

5. By virtue of their *experimenting practices*, professional pioneers play a special role in the development of their profession.

6. Professional pioneers typically possess *imaginations of possible future scenarios*. As a consequence, they often become a topic in the media's broader discourses surrounding related changes and often influence this discourse of their own accord.

Taking this general definition of professional pioneers, we can define *pioneer journalists* as professional pioneers in the field of journalism. This definition is based on an inclusive definition of journalism, including journalists who work as employees or freelancers for established media organizations that represent a relatively new type of 'entrepreneur', or are situated within tech companies and start-ups that are related to journalism as a certain form of practice.

When it comes to changes related to media technologies, our hypothesis is that pioneer journalists and their pioneer communities are a main driving force in the transformation of the field. As we already said, this does not mean that what these pioneers imagine as the future of journalism is actually realized, becoming the actual present of journalism on a larger scale. However, as *intermediaries* between media development, journalistic work, other social fields or movements, and more general media use, as members of certain *pioneer communities*, as an *organizational elite,* as *experimenters of new practices* that *imagine possible future scenarios*, pioneer journalists are crucial for the overall change of the field, offering an orientation for more general practices dedicated to transformation and change. The main aim of our research is to investigate empirically how that crucial role is performed.

3   Methods

Starting with the hypothesis that pioneer journalists are a main driving force in the transformation of the journalistic field, the aim of our explorative research is to investigate, on the one hand, to what extent this is the case, and on the other, how journalistic pioneers gain impact.

For this explorative research, we interviewed pioneer journalists in Europe and the US between February and July 2017 (some of the interviews were conducted by Leif Kramp and Julius Reimer). In all, these are twenty-one journalists that focus on a variety of emerging areas of journalism such as, for example, data journalism, sensor journalism, or chatbot journalism. Another criterion for our sampling strategy was to speak to journalists who, embedded in varying organizational settings, are responsible for innovation as a strategic management task (for instance within an established media organization or within labs or accelerators), who are running their own enterprise, or who are running a particular innovative journalistic project. Typically, the qualitative interviews lasted one hour; the shortest was eighteen minutes, the longest eighty-one minutes.

Name	Institution	Interview location
Albrecht, Yoeri	De Balie, Amsterdam, Netherlands	IJF17, Perugia, Italy
Alvarado, Joaquin	CIR, Emeryville, CA, USA	Emeryville, CA, USA
Barber, Greg	Washington Post, Washington, D.C., USA	IJF17, Perugia, Italy
Blejman, Mariano	Mediaparty, Buenos Aires, Argentina	IJF17, Perugia, Italy
Coelho, Pedro	Sic, Impresa, Lisbon, Portugal	Lisbon, Portugal
Cohn, David	Alpha Group, New York, NY, USA	Berkeley, CA, USA
Duncan, Byard	CIR, Emeryville, CA, USA	Emeryville, CA, USA
Farano, Adriano	Plex, Los Gatos, CA, USA	IJF17, Perugia, Italy
Gaeiro, Bernardo	Fablabs, Centro de Inovação da Mouraria, Lisbon, Portugal	Lisbon, Portugal
Garrido, Helena	freelance journalist, Lisbon, Portugal	Lisbon, Portugal
Green-Barber, Lindsay	CIR, Emeryville, CA, USA	Emeryville, CA, USA
Hoffmann, Martin	Resi, Berlin, Germany	Berlin
Jenkins, Mandy	Storyful, Dublin, Ireland	IJF17, Perugia, Italy
Knappmann, Lutz	Süddeutsche Zeitung, München, Germany	re:publica17, Berlin, Germany
Langeslag, Han	Perspective Daily, Münster, Germany	Münster, Germany
Little, Mark	Entrepreneur, Dublin, Ireland	IJF17, Perugia, Italy
Matzat, Lorenz	Start-up, freelance journalist, based in Berlin, Germany	Berlin, Germany
Monteiro, Pedro	Expresso/Impresa, Lisbon, Portugal	Lisbon, Portugal
Pereira, João Pedro	Público, Lisbon, Portugal	Lisbon, Portugal
Rosenthal, Robert J.	CIR, Emeryville, CA, USA	Emeryville, CA, USA
Timm, Lina	Medialab Bayern, Munich, Germany	re:publica17, Berlin, Germany
Vicari, Jakob	Start-Up, freelance journalist, based in Lüneburg, Germany	re:publica17, Berlin, Germany

Table 1: Interview partners (status: 1.9.2017)

At present, we are in the process of coding the data using MaxQDA. We do this with the help of a coding procedure which is based on the standards of Grounded Theory (Glaser and Strauss, 1999; Strauss and Corbin, 1998; Charmaz, 2006). In practice, this is a step-by-step process from an 'open coding' of concepts to more focused procedures of 'axial' and 'selective coding' which helps to build up theoretical statements that are 'grounded' in empirical data.

Our paper cannot present an analysis of all our interviews. On the one hand, we are still in the process of coding, while on the other this would be too exhaustive for a short paper like this. Rather, we would prefer to argue with the help of a first analysis of what we consider 'extreme cases'. These are the cases of the following five pioneer journalists:

- *David Cohn* (Berkeley, US), who works as senior director in an innovation team at Advance Publications and previously worked at AJ+ and Circa.

- *Martin Hoffmann* (Berlin, Germany), who is CEO and founder of RESI Media UG who developed 'Resi' – a chatbot that delivers news in the manner of a messaging app. Previously he was Head of Social Media of the news website WeltN24, Berlin.

- *Lorenz Matzat* (Berlin, Germany), who is the owner of a data-journalism start-up and occasionally works as a freelance journalist with a special interest in data journalism.

- *Robert J. Rosenthal* (Emeryville, US), who works as executive director for the Center for Investigative Reporting (CIR) and is a former journalist and managing editor of the New York Times, Philadelphia Inquirer and San Francisco Chronicle.

- *Jakob Vicari* (Lüneburg, Germany), who is owner of a start-up in the field of sensor journalism and works as a freelance science journalist.

We consider these five pioneer journalists as extreme cases because they differ most in how they imagine the future of journalism and the trajectory of their careers. For these reasons, discussing these cases offers us a chance to approach the discussion along a contour of the overall field. However, we expect a further refinement of our categories as our research progresses. While our analysis for this paper is based on comparing these five extreme cases, we have added statements from other interviews to further substantiate and contextualize our analysis.

4 Between start-ups and established organisations: Personal mobility, pioneer communities and organizational cooperation

Many of the pioneer journalists we interviewed complained about or criticized the lack of innovation in established media organizations. This is also the case for our five extreme cases. Robert J. Rosenthal, for example, told us that he 'was really frustrated about the lack of innovation on the business side to try new things': 'every time you […] wanted to do something different […] the first question was: what will it cost and what's the revenue'. This is also something the head for editorial innovation at a large German newspaper mentioned, adding that this limits the scope for experimentation making innovation and development difficult. Jakob Vicari, having his own start-up as a sensor journalist, was an employee of Wired Germany. Looking back, he complains that even there 'innovation was only possible in narrow limits', which, according to him, were the 'limits of thinking in

traditional stories'; and he generalizes: 'you cannot buy innovation just with money'. Similar is true for Martin Hoffmann, CEO and founder of a start-up, who stressed that he has a 'relatively critical view of the German media landscape' where 'people talk a lot but do little', where there exists 'little real innovation' and 'too little idea of the digital'. In addition, Lorenz Matzat, the German data journalist we interviewed, places emphasis on the special problems established media organizations are faced with when it comes to the latest technology. In these settings, there exists a dominant culture of acquiring technological innovations 'from external sources'. In contrast, an internal IT department is typically responsible for the editorial system and web page, 'sitting in the basement and as a rule fed up if someone from the editorial staff has a question'. The journalists' personal computers are 'locked up' for security reasons and 'it becomes impossible for people to develop self-initiative' to experiment with the latest digital technologies: There is no climate or culture in which you can try things'. However, working for an established media organization is considered 'secure' and when it comes to income is a more lucrative situation for professionals. Moreover, what is considered as 'innovative' or 'new' in established media organizations or newsrooms is always defined against the backdrop of already established practices or media products and not against the perspective of the broader field.

This is in stark contrast to the culture when working for start-ups or when running one. Working outside established media organizations opens up a lot of space for trying out new ideas and literally forces participants to observe new developments on a much broader scale. Taking our five extreme cases as examples, this can involve experimenting with innovative business models, the latest media technologies or more refined relationships with audiences. The latter became particularly clear during the interview with Martin Hoffmann who developed the app 'Resi'. Resi follows the approach of a conversational type of journalism delivering news with the help of a chatbot in an instant messenger-like way. But such openness has its price in the shape of high financial pressures. David Cohn – who began his career working for start-ups like *Circa* and was later somebody who has 'done innovation [...] within two companies: al Jazeera and Advance' – compares what he calls 'the dance that you do outside and the dance that you do inside' an established media company as follows:

> 'The dance you do outside, you even have to dance just to get the conversation. [...] I mean it's a fight for your life and not to say that you know it's not a fight. Inside, but, it's a different, you know, view point, right. You don't have to raise money the same way, right. You do have to when you're working within a company, you have to validate the monetary existence of the money you are spending. But that is a much different proposition than if you are out there and you're like somebody we need to raise money or somebody needs to buy us, right. Like that is a [...] different dance.'

This statement by Cohn is very pointed; however, other pioneers we interviewed also reflect the financially precarious situation of working in a start-up. Interestingly, some of the pioneers understand this precarious situation can be a main source of innovation. Jakob Vicari for example argues: 'If you have to exploit yourself [...] then the idea must also be strong'. Martin Hoffman, who mentioned during his interview that 'there are certainly more comfortable jobs' and that he is 'constantly making things', argued, however, that 'self-exploitation is no viable business model'.

The characteristics of established media organizations and start-ups seem to be quite clear: Established media organizations are financially, and in terms of the security they

provide, (still) the better places to work, but are, due to their less flexible organizational structures and established routines, considered to be far less able to innovate and of less interest to pioneer journalists, despite being able to reach larger audiences. Start-ups are much more interesting and innovative, but financially precarious and insecure, often producing news that is tailored to niche audiences. However, seen from a macro perspective, the role of and the relationship between start-ups and established media organizations is more complicated. More than one interviewee stated that both actors could benefit from each other. Martin Hoffmann stressed, for example, that the big media organizations have an advantage when it comes to generating awareness for their own media products, whereas for start-ups it is often very difficult to become known at all. We could say, perhaps hyperbolically, that start-ups operate in a 'context of thickening innovations', where new ideas emerge, but also where idea-making is partly outsourced by established media companies. Established media organizations, in contrast, operate within a 'context of transferring innovations into business'. That said, start-ups can fail, for example, when their ideas cannot be transferred into (financially) sustainable models. Established media organizations, on the other hand, can fail to be inventive, for example, when an innovation's core idea gets lost in the process of adapting it to a business model (which can often be related to a path dependency in their outlook).

Based on our data we can distinguish three ways in which such a connection takes place: through personal mobility, pioneer communities, and organizational cooperation. Again, we can substantiate this by discussing our five extreme cases.

1. Personal Mobility

Cohn himself is already an initial example of what we might consider an important connection with respect to his personal mobility. He started his career working at start-ups and then moved into the innovation teams of established companies like AJ+ (Al Jazeera) and now Advance Digital. There, he works in 'a unit within the company that does innovation for the existing brands'. This kind of personal mobility can best be understood as an attempt by established companies to 'buy in' innovation by hiring the relevant personnel and building 'intrapreneurial units' (Boyles, 2016). Another strategy is to try to 'change the system from within' by filling positions for innovation development with internal personnel who know the organization from the inside, as in the case of our interviewee Lutz Knappmann, head of editorial innovation at 'Süddeutsche Zeitung'. But personal mobility can also work the other way around. Jakob Vicari, for example, had already worked as a freelance journalist for seven years and was already established in the field before he joined Condé-Nast to build up Wired Germany. During his time there, he came-up with the idea of a tweeting coffee maker, which was the basis for his engagement with sensor journalism, something he now works on with his start-up 'Sensorreporter'. Martin Hoffmann is a similar case insofar as the fact that he also worked for an established media organization before he founded his own start-up. His affinity to the digital, however, has been characteristic of his career right from the beginning: he studied 'online journalism' and his subsequent positions within established media organizations were always related to social media strategies. Data journalist Lorenz Matzat was trained as a journalist at a newspaper and worked as a freelance journalist, but has also been running personal enterprises since 2010. A more extreme case, perhaps, is Robert J. Rosenthal who started his career as a journalist at the New York Times, then at the Philadelphia Inquirer and finally

at the San Francisco Chronicle, before he left to become executive director at the Center for Investigative Reporting in 2008 – and has only recently taken on the role of a pioneer journalist by developing a new funding model.

These examples demonstrate the importance of personal mobility quite well: it is partly because of their personal mobility that these pioneer journalists were able to interlink the 'worlds' of established media organizations and start-ups. In this sense, they are important intermediaries, too. These findings resonate with other work in the sphere of information- and knowledge-based work and with the concepts of the 'boundaryless career' (Arthur 1994, 2014) or the 'portfolio career' (Handy 1991) reflecting 'a career path that goes beyond the boundaries of single employment settings' (Deuze 2007: 22). Such arrangements also illustrate the tension between granting flexibilty and autonomy and precarity (Watson/Korczynski 2017; Cohen 2016 for freelance journalists).

2. Pioneer communities

Partly supported by the personal mobility of pioneer journalists across start-ups and established media organizations and the networks they build as a result; and partly supported by an ongoing personal exchange, we can observe that what we call a professional pioneer community exists across start-ups and established media organizations for whom certain 'border crossers' or 'wanderers between worlds' play an important role. Like other trans-local communities this is a more or less 'imagined community' with a specific 'style' of imagination (Anderson, 1983: 6). 'Style' at this point means, on the one hand, the reference point of imagination, the 'thematic core' of the respective community; on the other hand, it refers to the ways this is actually imagined. Pioneer communities also represent certain forms of sociation whose members not only share a sense of commonality, but who have together created structures that are intended to endure in the long-term. However, it is always an empirical question to know what these defining elements are, whether they are identifiable at all, and how they have become realized in different communities. As communities, they are 'post-traditional' (Giddens, 1994: 56; Hitzler et al., 2008: 9-19) since their membership is self-selecting, and they can be considered 'deterritorial' (Hepp, 2015: 205-215), particularly in cases where their networks spread across various locations. We can define the journalistic pioneer community by its 'thematic core' which is the 'doing' and 'establishment' of 'innovative' forms of journalistic practice oriented, as we hypothesize, towards 'building' a somehow imagined future for journalism. In this sense, this professional pioneer community is – as we have already said – a 'community of practice' (Wenger, 1999): a community which is originated in the shared act of 'doing'.

Each of the pioneer journalists we interviewed made more or less explicit statements about their involvement in a larger community of pioneers – even if they don't use 'pioneer' as a term or think of their network as community in the first place. João Pedro Pereira from Público, for example, talked of how 'people were all caught somewhere in this digital innovation circuit', of a 'kind of bubble of digital innovation of happy people' and of 'digital innovation dudes'. Cohn told us that 'there are […] people who I consider colleagues even though I've never worked with them, right, because I think [we are] […] kindred spirits'. These are 'people who are attacking these problems [in journalism] and then trying to make statements'; 'making statements' is the term Cohn uses to describe the core of any innovation. They exchange ideas via blogging, Twitter and Facebook. Twitter was mentioned by many of our interviewees as an important platform that they use to

connect with like-minded people and to monitor the latest trends in journalism and be-yond. Cohn meets his contacts personally at networking events such as conferences; oth-ers (like Matzat or Hoffmann) also mention Hackathons as important meeting spaces. Jakob Vicari told us that while he was as a journalist a 'lone ranger' when he started working with sensor journalism, he later contacted other pioneers in this field to exchange work and ideas. Besides that, he went to events like the Vocer Innovation Day, a network-ing event organized by the non-profit German Association for Media and Journalism Criti-cism (www.vocer.org/vocer-innovation-day/).

Data journalism references the open source movement, the open knowledge foundation (Lewis and Usher, 2013) and is also influenced by the 'culture of software development' promoting, according to our interviewee Lorenz Matzat, much more a culture of sharing than is the case in the field of journalism in general. Important events can be, for exam-ple, certain bar camps, but also events that are closer to traditional journalism such as the 'The European Investigative Journalism & Dataharvest Conference'. Sustained by online communication especially via Twitter and Slack channels, there is a 'loose' cooper-ation of data journalists: 'one supports the other', as Matzat says. What he and Martin Hoffmann, as well as other interviewees (like, for example, João Pedro Pereira from Pú-blico who talks of the 'outside perspective') particularly stressed was how important it is to 'look over the rim of the plate' and to move beyond 'the journalistic filter bubble' (Hoffmann) to really be inspired and to develop new ideas.

Statements like these give us an initial insight into the various related pioneer communi-ty(ies). From our point of view, it is still an open question as to whether there is *one*, highly differentiated and globalized pioneer journalism community or if there are, in fact, various pioneer communities oriented towards particular fields, and to which extent they interrelate with each other. What they might have in common, however, is a shared sense and orientation towards building a future of journalism that is strongly related to devel-opments in (media) technology and forms of 'datafied journalism' that position data as a high priority, for example, in generating and telling stories or measuring audience behav-ior (Loosen 2018). A deeper investigation of these questions is one of the foci for our pre-sent research. Nevertheless, the point we want to make here is that start-ups and estab-lished media organizations are not only related by the personal mobility of pioneer jour-nalists but also by the pioneer community(ies) they populate.

3. Organizational cooperation

Furthermore, there is a relationship between start-ups and established media organiza-tions at the level of organizational cooperation. This cooperation can take on various forms. In terms of our extreme cases, one initial example is the 'Super Cow!' sensor jour-nalism project by Jakob Vicari. He developed his original idea through his start-up; how-ever, he ran into the problem of getting it funded. His attempt to raise money through the Google Digital News Initiative failed, as he concluded from the feedback he got, because of ethical concerns as animals were involved. But he did not want to 'scale' his idea for corporate publishing. His way to realize the 'Super Cow!' sensor journalism project was through the support of the public Media Innovation Centre Babelsberg (www.miz-babelsberg.de), who connected Vicari with the public broadcaster WDR who, in turn, real-ized his idea as a sensor-data based, cross-media story about three cows from different kinds of farms (start was September 4th 2017, see www.superkuehe.wdr.de). This was a

form of temporary cooperation where an established media company – in this case: a public broadcaster – acts as 'host' for a start-up idea that subsequently ends up being supported with the required resources that only they can provide. Martin Hoffmann, in turn, also mentioned plans to establish other media partners 'to enter into the app'.

Within data journalism in particular, organizational cooperation is a dominant model. But we can also see the first signs of established and resource-rich newsrooms increasingly hiring and integrating dedicated data scientists into their organizational 'role mix' to foster 'intra-newsroom collaborations' (Borges-Rey, 2016: 12) between journalists and, for instance, programmers. The reason that data-driven projects are in many cases still realized with the help of external partners is, as Lorenz Matzat put it, that technology is typically the area where established media companies cooperate with 'external service providers'. In essence, his own successful career as a data journalist offers such external services to established publishing houses in the fields of print, online and broadcasting (after a successful cooperation, a number of people from the start-up 'Open Data City' moved to the German newspaper *Tagesspiegel*). Matzat understands this kind of cooperation as a key characteristic of data journalism in Germany.

Two start-ups in our extreme cases generate income by collaborating with established media organizations, the third, Martin Hoffmann's 'Resi' has plans do to so. This is a further example of how both relate with each other: pioneer journalists and their start-ups bring in innovative ideas and established media organizations bring the necessary funding or contribute to their revenue. However, we have to be aware that some of the projects being realized in this way are typically experimental ones whereas others, like the enterprises Lorenz Matzat (co-)founded managed to sustainably establish themselves in the field.

To summarize, in discussing our five extreme cases we get an initial insight into the role pioneer journalists and their pioneer communities play in the journalistic field. Both are highly important for connecting start-ups and established media organizations. Vital for this exchange are both the personal mobility of pioneer journalists' career paths and the networking possibilities pioneer communities can offer. This combination can also facilitate organizational collaborations between start-ups and established media organizations for certain (experimental) projects. In general, many of our interviews have shown us that pioneer journalism is intensively project-driven and something that, especially at the early stages of development, needs to be accomplished independently from the restrictions of daily production routines. This often means that individual pioneers and organizations are only bound together for a limited period of time and on a project basis and short-term contracts – organizing features of work associated with what Handy (1991) described as 'portfolio worklife', including benefits such as flexibility and threats from precarious employment, which are constantly increasing, especially for freelance journalism (Deuze 2007: 100; Cohen 2016).

This situation offers spaces for future organizational developments and, as a consequence, pioneer journalism is not only dedicated to providing new forms of reporting that include challenging perspectives and professional ideologies, but also represent an organizational shift for contemporary practice so that new forms of producing and disseminating information can be anticipated. Media and digital technologies play a crucial role in this situation – often forming the backbone for new developments in the field: through technologies, pioneers in journalism literally construct their vision of the future.

5   Possibilities: Challenges for journalism and the imaginations of its future

As we have already clarified, pioneer journalists do not deliver 'models' for a future journalism which can be readily applied to (established) media organizations, they instead imagine a future of journalism in a way that can orientate emergent developments. With the help of our five extreme cases, we want to discuss this in this section. Firstly, we reflect on the general challenges these pioneer journalists predict journalism may face going forward. On this basis, we will have a more detailed look at their imaginations of a future journalism.

Challenges for journalism and changes in the construction of audiences

Across our interviews, all pioneer journalists shared the position that journalism is currently confronted with many challenges. Systematizing our interviews, there are two main groups of challenges: economic and technological ones.

A good example of the *economic challenges* discussed is the general anticipation of a crisis in journalism. Robert J. Rosenthal for example thinks that 'one of the main reasons the [American] newspaper industry for the most part collapsed […] [was the] siloing of skills and the different values' of the business side of things and the journalistic one: on the one hand, they aim to increase profits, while on the other they aim to preserve a passion for reporting. In established media organizations, these 'completely different value set(s)' occupied a parallel existence and, according to Rosenthal, hindered the development of more inclusive business models.

Journalism's financial crisis is something that our interview partners also refer to in the European context, particularly the German case. But the pioneers we interviewed differ in how far-reaching they consider the crisis to be. While the pioneers we interviewed in the US understand the crisis as very far-reaching in that it may lead to the destruction of older, more traditional forms of journalism, our German interview partners are more hesitant on the matter. Jakob Vicari, for example, believes that the 'psychological strain is still not big enough'. For him this is the reason publishers still don't invest (enough) in truly innovative forms of journalism. Martin Hoffmann argues that the media and journalism crises were a reason that 'the start-up scene' in the first instance 'kept a certain distance to the media scene' which, in his eyes, is about to change. Lorenz Matzat, the German data journalist we interviewed, considers the period between 2000 and 2010 (and maybe even until 2015) as 'lost years' for the field: The economic models were breaking down because of technological change but engagement with new approaches was, from his point of view, very limited and small-minded. The 'danger' he sees is that 'journalism becomes replaced by products that look like journalism but are actually something else, and that they are actually PR or advertising. This goes hand in hand with the statements made by David Cohn who considers 'money' as 'one of the biggest' problems for journalism in the US. He relates this to questions of technology because 'the problem with money is that we have been disintermediated from data'. In other words, 'data' became a main source of value creation and the traditional models of financing journalism via advertising, for example, are now excluded from this relationship.

At this point we can see how closely the pioneer journalists relate economic challenges to *technological* ones – *especially those* related to the production and dissemination of journalism. One main issue here are social media, and especially Facebook, as an increasingly

relevant platform for reaching audiences. If we follow the arguments of our five extreme cases, the main point here is less that access to audiences takes place via a non-journalistic platform which traditional media companies do not control. The main issue is, rather, that the relation to audiences transforms with these new approaches. While 'traditional' journalism was oriented to serve one single audience that they envisioned as a more or less homogenous 'community' built around their particular media product or brand, distribution via social media supports much more individualized forms of media use accompanied by a multiplication of audiences and individually identifiable users; a media outlet can now reach out via different channels (such as via the homepage, social media accounts, the printed or broadcasted products (Loosen/Schmidt 2017). As David Cohn put it:

'You're not an audience member, it's not for being an audience. It's for you to connect with your friends and family, it's for you to create your personal identity online. […] Facebook is not about audience, Facebook is about individuals' identities and so media is no longer about consuming media as an audience member, it's about how am I consuming this?'

In discussing these arguments, the pioneer journalists we interviewed have constructed a certain kind of understanding of any so-called crisis: Journalism's economic crisis is mainly related to changes in media technologies. When forms of production, representation and distribution become increasingly digitized and, therefore, form a basis for generating data, the established models of value generation do not function anymore. Therefore, there is, as it was put by different interviewees, a need for journalism to take a step further into the datafied world. At the same time, this is a world in which other established concepts of journalism – including that of 'the audience' – become fluid. This anticipation of a very fundamental transformation is the basis upon which pioneer journalists develop their imaginations of a future journalism – and their present practices to build that future already today.

Imagined forms of a future journalism

The five extreme cases selected for this paper represent a spectrum of imaginations of a future journalism that is clearly represented in our data – and which are already practiced by pioneer journalists in today's present (see Table 2). The two outer positions are held by data value chain journalism and sensor journalism. *Data value chain journalism*, is an idea promoted by David Cohn and developed within established media organizations; the core idea is to refine the business model in such a way that it allows these organizations to participate in a value generation based on audience data. This brings former 'media companies' close to 'tech companies' and blurs the distinction between them. Jakob Vicari, at the other side of the spectrum, represents with his *sensor journalism*, a highly experimental form of reporting driven mainly by the core idea of innovation and so-called 'access points' that generate data purely for the sake of generating stories. Here, sensor data is used to automatically generate stories based on a content management system with pre-defined and algorithmized decision trees – an idea that at present can only be financed with the help of advancement awards and cooperation with established media organizations that happen to support experimental formats. In between these two extremes is *non-profit impact journalism* as it is realized by the Centre for Investigative Reporting where Robert J. Rosenthal is executive director. Here the technologically relat-

ed economic crisis of journalism is imagined as being solved by a new, alternative business model – in this case donations finance investigations for news stories which are eventually distributed free of charge. *Data journalism,* mainly dedicated to finding stories in, and telling stories with, ever-more available datasets is, in contrast to sensor journalism, already established to some extent. In our sample, it is represented by Lorenz Matzat who found a business model insofar as the skills to produce news stories based on data analysis are sold to established media organizations, either in the form of respective software products or in the form of whole stories written from the fruits of such software. Chatbot journalism, in turn, is still a relatively new technology, but one that already shows signs of further development as established newsrooms are also working with messengers and chatbots to reach wider audiences. However, for Resi Media and its app Resi this technology is the main cornerstone for delivering and 'deconstructing' news in the shape of a particular style of reporting.

	Data value chain journalism	Nonprofit impact journalism	Data journalism	Chatbot Journalism	Sensor journalism
	<<< established <<<		*form of organization*		>>> start-up >>>
Interview case	David Cohn	Robert J. Rosenthal	Lorenz Matzat	Martin Hoffmann	Jakob Vicari
Example(s) for organizations	AJ+, Advance Digital	Centre for Investigative Reporting (CIR)	Open Data City, Lokaler	RESI Media	Sensorreporter, Super Cow!
Business model	Participating in the value through data	Donations for investigative reporting, outreach by 'sharing' stories across different media for distribution	Service provider for the development of data journalism applications and projects for established media organizations	Mixed financing strategy: (1) license model and services for non-media enterprises, (2) subscription model including in-app purchases, (3) prospective: gain other media partners, advertising in a conversational style	Support by accelerators/advancement awards; possible business models: sale of a 'reporter box'; experimental formats in established media organizations
Role of media technologies	Social media (i.e. Facebook) and apps as a new form of (mobile) distribution and data generation	Spread of stories via social media across all media channels; collection of user data to prove the impact for donators	Software to analyse and visualize complex forms of data	Software/app as cornerstone to 'deconstruct' and deliver the news on the basis of a "scripted dialog"	Sensors and software to collect data for automated story telling being part of wider (social) media coverage including chatbots
Anticipated relation between journalism and audiences	Users who consume media individually for identity work and to share partly for this purpose in their networks and communities	Partnering and collaborating role, new relevance of 'impact check analysis' to show the donors the difference	Users as highly interactive and interested in detailed information and data that has to be represented in an appropriate way	Users as highly interactive and inspirable for (hard) news as long as they come in a conversational and entertaining/playful way	Users as highly interactive and interested in detailed information that can be generated automatically

Table 2: Imaginations of possible forms of a future journalism

Comparing these different cases two points are particularly striking. First, all of them are very technology- and data-related. Even non-profit impact journalism – which can be thought of as being beyond digital technology – is constructed as technology-related as the access to detailed forms of data is understood as an ability to gather information on the 'impact' of the stories that are shared free of charge. This is imagined as crucial insofar as 'data' accumulated in this way allows practitioners to communicate information back to their financial sources and therefore secure them as future philanthropists. Second, all five cases represent a revised understanding of audiences. What was formerly constructed as an 'audience' is now understood as individual users who are rather skilled, interested and active in their media use. In this sense, pioneer journalists have already developed a much more differentiated view of whom they serve, to what ends, and by which means than most journalists working in established newsrooms (Heise et al. 2014).

These two points raise the question. How far are the imaginations of a future journalism – as we find them with respect to pioneer journalists and their pioneer communities – of a practice that addresses wider groups of people? Looking more closely, they might be considered as quite elite views, oriented towards an implicit projection of media users as well-educated, critical citizens. This again may be something pioneer journalists share with other media-related pioneers (Hepp, 2016). We might expect that having ideals like this may reflect a further general aspect of the pioneer journalist. This brings us to the conclusion as to how far pioneer journalists themselves might be the 'makers' of a future journalism.

6   Conclusion: Pioneer journalists as 'makers' of a future journalism?

We began this paper with the consideration that pioneer journalists do not imagine straightforward 'models' that can be readily applied to current mainstream journalism, but are practitioners likely to have a remarkable impact on the discourse surrounding its future – something that signals developments and practices from pioneers at the periphery pushing against the centre. To summarize, our analysis differentiated this general assumption further. Concluding this paper, there are three points we want to highlight:

1. Pioneer journalists, and the pioneer communities that they are a part of, are a driving force for change: Our analysis has demonstrated that 'behind' and 'across' established media organizations pioneer journalists build a kind of 'fluid figuration of innovation'. Looking in more detail at this figuration doesn't just reveal a loose network; rather, it is a community or a set of communities that share a certain orientation towards future developments and change – and it is, to a large extent, experimenting with and also maintained by media technologies. Maybe the transformative power pioneer journalists and their pioneer communities possess is exactly this fluidity – or more concretely: the possibility to act across various media organizations and start-ups. Because of this fluidity they appear as a 'hidden' phenomenon in everyday practice.

2. Their imagined forms of a future journalism are rather elite and economically vague: Taking a closer look at the specific imaginations of a future journalism it is evident the crucial role technology plays in their work. But it is also evident that these imaginations at present address a rather elite media user and that they are economically vague in the sense that most of them rarely 'scale' to larger media companies. However, with reference to our starting assumption, this is not the crucial point. The impact of such imaginations is not to be transferable to larger entities on a one-to-one basis. Their impact is seen, rather, in their opening up of a new space of thinking.

3. Pioneer journalism is a sensitizing concept: Pioneer journalism, as we used the term in this paper, is a 'sensitizing concept' that 'gives the user a general sense of reference and guidance in

approaching empirical instances' (Blumler 1954: 7). Mainly, it sensitizes us from an actor's point of view to the dynamics of change in the field of journalism and how 'established' and 'outsiders' build a stable figuration at this point: the relatedness of established news organisations, startups, accelerators and individual pioneers in pushing, fostering, enabling, and implementing innovations in journalism. By this, the concept of pioneer journalism goes far beyond the rather prominent field of research dealing with the diffusion of innovations (especially) in newsrooms. Therefore, starting our analysis with a focus on pioneer journalism can shed light on phenomena and developments that help us to better understand the transformation of journalism on a broader and more general scale. By reflecting on the role of pioneer journalists and pioneer communities in a thorough way can we reach an understanding of the transformation of journalism's multiple dynamics. This includes a dynamic that operates beyond the newsroom and cuts across individual media organizations or other organizational entities such as start-ups.

Pioneer journalists, as we found in many of our interviews, are in many ways concerned with drawing differences to established journalism, mainstream media, and their ways of organizing journalism. From their perspective, established journalism is still a reference point – even if it is only ex negativo. In the end, it is this difference that creates a dynamic for change. However, the future of journalism as imagined by pioneers is first and foremost evolving from the experimentation in alternative forms and technologies which up to now have not been or have only loosely been related to journalism. For pioneer journalists, and this was often repeated in many of our interviews, this is not so much about the distinction between journalism and non-journalism, it is more about 'out of the box' thinking and scrutinizing all possible – particularly technology-driven – phenomena with respect to their suitability for building a future journalism.

Certainly, pioneer journalists are not the sole 'makers' of journalism's future – a future that is to some extent already observable in pioneering practices. But they are important idea generators in the broader dynamic of change: what is still perceived today as pioneering can (and will in part) be established practice tomorrow. The idea of our research is to investigate this dynamic and the role of pioneer journalism within it.

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