encore

THE ANNUAL RESEARCH MAGAZINE OF THE
ALEXANDER VON HUMBOLDT INSTITUTE FOR INTERNET AND SOCIETY

VOLUME 2016

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EDITORIAL

Jeanette Hofmann, Director of the Humboldt
Institute for Internet and Society

It's hard to believe but in October 2016, the Alexander von Humboldt Institute for Internet and Society (HIIG) celebrated its 5th anniversary. At the time when its founders got together to discuss the launch of the first German research institute dedicated to internet and society, the digital landscape looked quite different. It was when the Tunisian people had given a new meaning to the term internet revolution, when cloud computing had just come on the scene and when shopping for CDs online still seemed a normal thing to do. The process of digitalisation is still moving so fast that we have only just begun thinking of ways to systematically keep track of it. Perhaps there will be more about this in the next edition of encore.

With the fifth year, an important chapter in the life of HIIG has come to an end. Our first generation of doctoral students completed their dissertations. Korse, the Competence Network on the Law of Civil Security in Europe was wound up, and a few other projects have also concluded. Moreover, the heads of our four research groups are moving on; interestingly, most of them to take up new opportunities outside of academia.

However, before we get too sentimental, we have a lot of new endeavours to keep us really busy. HIIG's biggest event this year was hosting the AoIR 2016, the annual conference of the Association of Internet Researchers. Judging from the subsequent feedback, we managed to provide both an intellectually stimulating programme and a cool venue; and the roughly 580 attendees were glad to have travelled from near and far to discuss *Internet rules!* with us.

Starting HIIG's next chapter means filling our three new research programmes with life but also sharpening our academic profile in an evolving institutional landscape of internet research. It is the relationship and tension between governance and digital innovation that we have chosen as the focus of our research questions and activities, our competence. Adding to this, there is a growing emphasis on European collaboration (within the Network of Centers and also our journal, the *Internet Policy Review*). In all of these activities, you will recognise the special signature of HIIG's work.

In this light, stay with us!

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ABOUT THE ALEXANDER VON HUMBOLDT INSTITUTE FOR INTERNET AND SOCIETY

The Alexander von Humboldt Institute for Internet and Society (HIIG) explores the dynamic relationship between the internet and society, including the increasing interpenetration of digital infrastructures and various domains of everyday life. Its goal is to understand the interplay of social-cultural, legal, economic and technical norms in the process of digitalisation.

Through its basic and applied research, HIIG contributes novel ideas and insights to the public debate on the challenges and opportunities of digitalisation. It serves as a forum for researchers on internet and society and encourages the collaborative development of projects, applications and research networks on the national and international level. The institute uses a variety of formats to share its research with the public, including the political sphere, business and civil society.

The three founding associates – Humboldt-Universität zu Berlin, Berlin University of the Arts and Social Science Research Center Berlin, in alliance with the Hans-Bredow-Institut for Media Research in Hamburg as an integrated cooperation partner – enable the institute to adopt a multilayered perspective by focusing on technological and legal issues, as well as on sociological, economic and artistic aspects.

THE INSTITUTE'S LINEUP

Susanne Becker
Management

Katharina Beitz
Internet-enabled Innovation/Management

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Global Constitutionalism and the Internet

Kevin Dankert
Internet and Media Regulation

Christian Djeffal
Global Constitutionalism and the Internet

Martina Dopfer
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Management

Kai Gärtner
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HIP HIP HOORAY

We turned five – toddler time good bye?

WE ASKED OUR FOUNDERS ...

"Humboldt-Universität is proud to be one of HIIG's founding institutions. The need for high-calibre, interdisciplinary and internationally networked research on the internet and society is clear nowadays. HIIG brings together the diverse competencies that are required in the heart of Berlin – which is of course a great opportunity for Humboldt University. For example, our law students can bring their proven expertise to bear in specific ways. The Interdisciplinary Centre for Internet Research, which we are currently planning at HU, is closely linked to HIIG. We sincerely congratulate you on your five-year anniversary, wish all the participants continued success and look forward to an ongoing, fruitful cooperation for all of us."

Jutta Kunst, President of Humboldt-Universität zu Berlin

"As a place to reflect on the immense changes that have come to affect all of our lives due to the development of digital media, as a think-tank, a consultancy, a research centre and a future laboratory – such are my thoughts on participating in the founding of HIIG in the year 2011. And we can look back on a successful first five years of results, in which we have systematically explored issues that, astonishingly, had only been looked at individually and separately in Germany. What was decisive for the participation of the University of the Arts in Berlin were the changes in the world – economic, procedural, juridical, social and above all cultural – since all of these aspects play a role in the concept of culture, and every human interaction should be the focus of humanistic-cultural consideration. HIIG has met many of our expectations very well."

Martin Rennert, President of Berlin University of the Arts

"After the first round of talks, we at the WZB very quickly realised the urgent need for a multidisciplinary research institute on the issue of the internet. And in the process of supporting HIIG in the start-up phase, we already got an inkling of what might grow out of it. Today we see what HIIG has achieved as a pioneer of interdisciplinary internet research in Germany in just a few years. Its achievements in research and contributions to discussions as well as the many international fellows and successful graduate students it has attracted show that it was right to participate in the setting up of HIIG. We wish HIIG all the best for the future and look forward to a continuing cooperation that will benefit work on the issues of a global digital society."

Jutta Allmendinger, President and Heinrich Baßler, Managing Director of Social Science Research Center Berlin

Formal Founding
Launch of Network of Centers

... AND DIRECTORS

HOW INGOLF PERNICE REMEMBERS THE FORMAL FOUNDING OF THE INSTITUTE, MARCH 2012:

"While the Enquête Commission on Internet and Digital Society of the German Parliament was busy assessing the social and political implications of the digital revolution, two of its academic members, Jeanette Hofmann and Wolfgang Schulz, and two members of Berlin universities, Thomas Schildhauer and Ingolf Pernice, decided to launch a new institute of a kind not seen before in Germany: an institute dedicated to trans-disciplinary research on the interplay of the internet and society. The new institute was welcomed by hundreds of academics from all over the world as a forward-looking platform for academic research and exchange in October 2011, at our inauguration symposium in Berlin on: "Exploring the Digital Future". We are most grateful for the enthusiastic support for this endeavour from all sides, and took the question of some journalists, who asked why we had not established such an institute many years earlier, as a great compliment and encouragement to go ahead – and so we did."

WOLFGANG SCHULZ RECALLS THE LAUNCH OF THE NETWORK OF CENTERS IN BOSTON, DECEMBER 2012:

"The idea of forming a global network of internet and society research centres was actually born at HIIG's inauguration symposium. The NoC was founded at a conference in Cambridge hosted by the Berkman Center (now Berkman Klein) and was driven by the desire for intercultural mutual learning. There was a general feeling that this cooperation platform was needed, not only to facilitate projects and the exchange of knowledge, but to form a community. And although it was only launched a short time ago, this community has proven that it can substantially contribute to internet and society research and facilitate the debate on challenging issues."

☆ Foundation for Internet and Society

5 Years HIIG and AoIR 2016

THOMAS SCHILDHAUER TALKS ABOUT THE ESTABLISHEMENT OF A FOUNDATION, MAY 2015:

"Three years after the foundation of the Alexander von Humboldt Institute for Internet and Society (HIIG), we have decided to further develop our organisation; we are moving towards a long-term funding structure to permanently secure our research activities based on a multi-stakeholder funding network. Therefore, HIIG's founding partners HU Berlin, UdK and WZB established the Foundation for Internet and Society in 2015. Our purpose with the foundation is to promote transdisciplinary research projects relating to the internet and its interaction with society, politics, the constitution, law, art, culture and the economy, on a national and international level. HIIG is the primary beneficiary of the foundation, but other research institutions that carry out research on internet and society, or that want to develop in this direction, can also benefit."

JEANETTE HOFMANN CLOSES WITH THE AOIR CONFERENCE, HOSTED IN OCTOBER 2016.

"In 2016, HIIG hosted the AoIR, the largest and oldest conference about internet and society. More than 500 people came from 30 countries to Berlin to discuss *Internet Rules!*, the motto of this year's meeting. While the AoIR was the biggest event HIIG has hosted to date, we added our own signature to it. This concerns the overall focus on rules, which also informs much of our research, but it goes beyond that. As many participants noted, we provided fantastic organisation and a great location. HIIG likes to celebrate excellent research with style and charm!"

Check out the poster that is attached to this edition of *encore*
and find your way through the maze of five years of internet research.

THE HUMBOLDT INSTITUTE FOR INTERNET AND SOCIETY 2016 IN NUMBERS

Cookies for annual conference AoIR 2016 in kilograms	34
Cake for annual conference AoIR 2016 in kilograms	250
Self-grown sweet peppers on the HIIG terrace	∞
White wine drunk at Digitaler Salon in litre	180
Pretzels eaten at Digitaler Salon	795
Minutes employees exercised in the office	585
Number of pull ups conducted in the office	22 000
Vanished forks	20
Number of moving boxes	200
Dishwasher fairy	1
Justified doubts the dishwasher fairy exists per day	10
Number of dishwasher processes	647
The dog days without our italian espresso machine	64
Total number of coworking documents	11 631
Blog articles published online	80
Youtube clips uploaded	103

RESEARCH FELLOWS 2016

This year’s fellows captured their time in Berlin with pictures

The moments when Berlin rules.

I wish I was...

My Kiez, my castle.

What I left behind at HIIG.

What I take with me from HIIG.

What you don't know about me.

TIMOTHY LIBERT

STEFAN BAACK

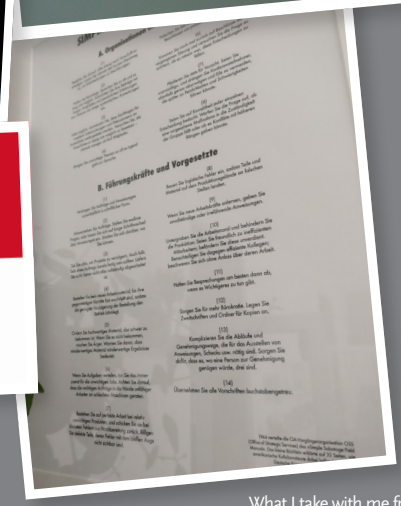
I wish I was...

The moments when Berlin rules.

What I left behind at HIIG.

My Kiez, my castle.

What you don't know about me.



What I take with me from HIIG.

FELLOWSHIP PROGRAMME

Our fellowship provides a unique opportunity to innovative thinkers to exchange experiences and set up new initiatives in an inviting intellectual environment. The selected fellows are very welcome to collaborate in a growing international team and to participate in the research activities at our institute. We offer a number of opportunities to get involved with our research programmes and to discuss research projects with the HIIG research team, such as publishing a paper in the institute's SSRN Discussion Paper Series, organising workshops and brown bag lunches, as well as engaging in joint activities and projects with other fellows.

OUR 2016 RESEARCH FELLOWS

Stephan Baack | Germany | Research Centre for Media and Journalism Studies, University of Groningen

Timothy Libert | USA | Annenberg School for Communication, University of Pennsylvania, Philadelphia

Manon Oostveen | Netherlands | Institute for Information Law, Universiteit van Amsterdam *

Sabina García Peter | Spain | Institute for Latin-American Studies, Freie Universität Berlin *

* Due to a short stay at the institute, these fellows didn't participate in our image quiz.

RIKE MAIER

Not always irreconcilable: memes and copyright

Memes are part of the scenery. Many users take it for granted that they can use popular images or video clips or create new ones. They are almost always based on external material such as short film clips, still images or photos. Most users also don't regard the use of external content for such purposes as illegal and hence don't consider copyright issues. So, are memes a nightmare for copyright claims on the internet? Or might they even be permissible as exemptions to copyright law? The answer to this question is complicated. Even if memes have become a central part of internet culture in recent years (Zittrain, 2014), there is still no common understanding of what memes actually are and how they can be classified – not even among meme researchers. Memes can perhaps best be described as picture-based internet jokes (Ullrich, 2015). Since there are practically no court judgments about memes, the issue is also legally unclear. When disputes relating to copyright arise, they often don't go beyond warnings and license claims, which are the precursors to legal disputes. Hence, this article will take a closer look at the possibilities for using photos or film clips for memes without the permission of the rights holders under German and US law.

THE MEME AS A QUOTATION? LIMITED ROOM FOR MANOEUVRE

For the use of another person's photograph to be justified as a quotation, the user must be pursuing an aim to quote (Djordjevic & Passek, 2012). Thus, the external material must, for example, be required in order to support one's own point of view. This initially seems to be the case for critical memes such as the one shown above. The original photo shows German chancellor Angela Merkel and US President Barack Obama with other summit participants on the fringes of the G7 meeting in Elmau in June 2015. Only the section showing Merkel and Obama talking subsequently spread as a viral phenomenon on the net. The type of meme shown here can be understood as a critical allusion to the revelations about the NSA surveillance and Merkel's reaction to it. However, with regard to quotes, courts have already ruled that the external material may only play a minor role in the new post, such as the Federal Court of Justice in the *Museumskatalog*

case (I ZR 32/92) and the Munich Higher Regional Court in the case of *Das unlesbare Buch* (29 U 1204/12). Photo-based memes do not often meet this requirement, since they usually only add a statement in the form of a title and a subtitle to the images. Hence, the images used cannot be construed as playing a mere supporting role.

ARTISTIC FREEDOM ALLOWS MORE – BUT ARE MEMES ART?

However, the Federal Constitutional Court expanded the limits of the right to quote in its judgement for the *Germania 3* case (1 BvR 825/98): If the new contribution is art, artistic freedom permits quotation for a wider range of purposes beyond directly proving something. Then the external material can be used as material to create art and can form the central component of a new artistic statement. In this case, it would not be a problem if the photo constituted the greater part of the new work. But there are difficulties here too: first, a court would have to decide that memes can be considered art and therefore fall within the scope of artistic freedom. Yet do art and memes fall into the same category? From a cultural studies perspective, Wolfgang Ullrich (2016) stresses that whether or not something is seen as art largely depends on the context. As a social media phenomenon, memes often do not fit into an artistic context. Unlike in the case of art works, meme producers show no pride in their work; even in the case of meticulously designed memes, the creators can hardly ever be found. As artistic freedom is a fundamental right, lawyers have developed various concepts of art, which ultimately matter in copyright. In a decision on the right to quote, the Federal Court of Justice (BGH) has defined art as follows: Each artistic work is an interplay of conscious and unconscious processes that can not be resolved rationally. In artistic creation, intuition, imagination and art understanding interact; it is not primarily communication, but expression, and in fact the most direct expression of the artist's individual personality (I ZR 212/10 – "Blühende Landschaften").

But this definition seems unsuitable for memes, since memes are actually short messages within a community. Whether this narrow definition of the BGH is consistent with the artistic freedom jurisprudence of the Federal Constitutional Court is another question (Schneider, 2012). But even if memes fall under artistic freedom and users are thus allowed to use external material as a central creative element, there would still be problems with the right to quote. First, the prohibition on making changes (Art. 39 and 62, Copyright Act) is still likely to apply, since the images may only be reproduced without alteration, with a few, narrow exceptions. In addition, quotes are required to specify the sources of external material (Art. 63, Copyright Act). However, for the images underlying memes, this is extremely unusual (Ullrich, 2016). Something that becomes an internet meme is typically spread in an uncontrolled manner without proper references to the creator and the material used. These problems alone show that with memes, the right to quote will not get users very far.

continue reading on page 30 ⏭

THIS IS AN ARTICLE BY **RIKE MAIER**

This article was first published on 6 May 2016 on irights.info and afterwards on the HIIG Blog. Rike Maier is a doctoral researcher focusing on copyright and media law as well as European law. At the Alexander von Humboldt Institute for Internet und Society she is part of the research department Global Constitutionalism and the Internet.

THE DWERFT PROJECT

The dwerft project is a collaborative research project regarding new IT-based film and television technologies. The mutual vision of this alliance is cross-linking production, archiving and distribution processes of audio-visual media content. Core theme of this project is to create a cross-linking between all these processes without any loss of data but with open interoperable standards. Thus, the main goal is creating a commonly shared technology platform named Linked Production Data Cloud. All partners contributing to this project are developing different services, processes and interoperable technologies linked to that core technology within five joint projects. The Alexander von Humboldt Institute for Internet and Society is mainly involved in three joint projects: Orphan Works, Distribution and Knowledge Transfer. For the Orphan works project, the institute contributes analyses of the legal requirements for using works whose rightsholders are unidentifiable or untraceable.

ARE MEMES PARODIES? A MORE LIKELY STORY

The idea that memes are permissible under copyright law as parodies could have more potential. If memes can be described as internet jokes, their way of functioning would precisely be "to break or cleverly satirise" the image used as Wolfgang Ullrich (2016) has formulated. Under German law, parodies are permitted as a case of so-called free use (Art. 24, Copyright Act). Since there is also a freedom to create parodies under the EU Copyright Directive, however, the judgements of the Court of Justice of the European Union (CJEU) are also binding in Germany (I ZR 9/15). In its *Deckmyn* decision, the CJEU established a wide definition of parodies: According to this, parodies must recall an existing work, and simultaneously exhibit noticeable differences from this and represent an "expression of humour or derision" (C-201/13). At first sight, this might seem to apply to a good many memes.

But the CJEU applies one major restriction: It requires a balance between the freedom of expression of the parodist and the rights and other interests of the copyright holder. For example, if the new contribution makes a discriminatory statement, the copyright holder has a legitimate interest not to be connected with it afterwards. Thus, ultimately the parody would not be permissible. In memes, humour and discrimination sometimes appear side by side. Consider, for example, the sometimes racist memes based on the image of football player Mario Balotelli (Ullrich, 2015b) in the European Championship semifinals in 2012. However, in a recent decision on a parody of a photo, the BGH provided a limiting explanation that a photographer only has an interest in not being associated with a potentially disparaging statement in a picture parody, if the image manipulation is obscured or is not apparent to the viewer (I ZR 9/15). Everyone realises that memes are not developed by the original creator of the image. So, provided that the creator's moral rights (in particular Art. 14, Copyright Act) do not prevent it, memes could conceivably be allowed as parodies in many cases.

EVEN WITH FAIR USE, MEMES ARE NOT ALWAYS COVERED

Commentators frequently decry (Kühl, 2012) that the legal situation for memes is so complicated in Europe because Europe lacks a flexible instrument like fair use under US law. It can certainly be argued that memes can be considered fair use when they are used for a different purpose than the original material and, for example, parody it. This is especially true of memes that are created for non-commercial purposes and thus comply with the fair-use principle in another respect.

But there is still a grey area for memes in the USA as well – and there is little case law to resolve it beyond doubt. A key problem arises from the fact that it is often difficult to identify the new purpose for the meme when a photograph is used. For example, on

the anniversary of 9/11, the US broadcaster Fox published a photo of American firemen hoisting a US flag at Ground Zero on its Facebook page. This photo is very well known in the USA and Fox contrasted it with the equally iconic image "Raising the Flag on Iwo Jima" (1945) – an image showing American soldiers hoisting the American flag during the Battle of Iwo Jima in World War II. It was posted using the hashtag #neverforget. The post must have looked similar to the image shown below.

The case ended up before a New York District Court (1:13-cv-07153-ER), which had to decide whether the post – which was perceived by some observers as a political meme – was covered by fair use. The court had to consider whether the use was transformative and thus pursued a different aim than the original or whether it conveyed a modified aesthetic impression. However, a new, transformative purpose could not be identified, since there were only minimal changes to the image itself and its symbolism. The fact that the image was used for advertising purposes for the accompanying TV programme, according to the court, also spoke against fair use. In contrast, several American law professors (Tushnet & Springman, 2015) convincingly claimed that by juxtaposing the image, Fox had re-contextualised it. They argued that the broadcaster had revealed parallels in the reactions to 9/11 and Iwo Jima and wanted to demonstrate respect for American heroes. That would be a very different purpose than the original picture, which was more documentary in nature. Before an appeal court could examine the case again, the parties agreed to a settlement. The case shows that where memes and copyright meet, this can lead to disagreement in the United States as well.

DIVERSITY OF MEANINGS REMAINS A LEGAL HURDLE FOR MEMES

The complex relationship between copyright and memes is at least in part due to the difficulty of interpreting memes. The cultural studies scholar Limor Shifman (2014, p. 354) writes that memes are mainly about mutation and transformation. She sees the memetic image as a living object. Hence, memes reveal just how many different

the memetic image as a living object. Hence, memes reveal just how many different meanings an image can contain. The variety of possible interpretations leads to legal uncertainty. Different statements can – as the examples show – lead to totally different legal consequences. Hence, if the creator of a meme uses external material, its use cannot be deemed permissible or impermissible under copyright law across the board.

Neither the American fair use model nor the German provisions can unproblematically deal with these ambiguities, which are inherent in memes to a much greater extent than in classic works of art. Their constantly changing meanings makes it hard in both jurisdictions to legally classify them across the board and unequivocally. Nevertheless, if memes parody familiar images in a surprising way, one could well argue that they are permissible under US as well as under German copyright law. Thus, in contrast to the meme shown above, one could say: not necessarily copyright infringement, especially if funny. ◆

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Kosmos
WISSENSCHAFT IM KURZFOR
#LNDW

LONG NIGHT OF THE SCIENCES

This year, HIIG took part in the Long Night of the Sciences for the first time. On that night, more than 70 scientific institutions, laboratories and libraries all over Berlin opened their doors to a diverse audience. More than 600 visitors came by to find out more about HIIG's research on internet and society. They had the chance to get to know HIIG's researchers and research agenda in a series of talks ranging from user driven innovation to how Facebook and co. shape the rules on their platforms. See below for short summaries of the talks, which you can also watch on HIIG's Youtube Channel. But there was a lot more on offer: during that colourful night, the 3Dprinter showed its magic, making it the most popular exhibition piece. The Startup Clinics offered coaching sessions for interested entrepreneurs, an exhibition of old games and devices allowed visitors to revisit the beginnings of gaming live and guests could test their legal knowledge on internet-related rights in a quiz show.

Sascha Friesike

EVERYTHING NEW ALREADY EXISTS, IT JUST NEEDS TO BE RECOMBINED

What is the result of combining a burger and a pizza? A pizza burger, of course, and this kind of combination reveals how we innovate. Sascha Friesike shows eight standard forms of innovation by using a shopping basket. .

Theresa Züger

DIGITAL DISOBEDIENCE – FROM CYPHERPUNKS TO EDWARD SNOWDEN

Edward Snowden, Julian Assange or the Anonymous Collective are perfect idols for digital disobedience. But how does the scientific definition of civil obedience fit with these new forms of digital disobedience? Is technology-driven disobedience a form of civil protest as well? Theresa Züger compares established theories and modern phenomena to develop the academic definitions.

Julian Ausserhofer

SCIENCE AND DATA JOURNALISM:
A CARTOGRAPHY OF THE NEW EXTREMISM IN EUROPE

How are right-wing people connected in social media? Where do their sources come from? And how do they interact with each other? Julian Ausserhofer presents the project *Networks of Outrage*, in which HIIG cooperates with data journalists from Austrian news site standard.at to learn what an interactive, well-designed visualisation of research results could look like.

Lies van Roessel & Christian Katzenbach

ON COPYCATS AND CLONE WARRIORS:
THE GAME INDUSTRY BETWEEN INNOVATION AND IMITATION

Almost nobody reads instructions before starting a computer game anymore. Computer games have become self-explanatory because the game mechanics are often similar. According to Lies van Roessel and Christian Katzenbach, the reason is that game designers copy from each other. These researchers studied norms and manners among the community of game designers.

Kirsten Gollatz

MY PLACE, MY RULES! HOW PLATFORMS DECIDE WHAT WE CAN SAY ONLINE.

Kirsten Gollatz welcomes the audience in the room, which she defines as her platform for the next ten minutes. She illustrates how she could define the rules in that room from now on – just as Facebook does with its users – and what events have provoked a change in Facebook's terms of use during the last years.

Benedikt Fecher

SCIENCE BEHIND BARS – IS OPEN ACCESS AN ESCAPE ROUTE?

Even though there are better ways to type, we are still using a QWERTY keyboard. When a previous decision is not changed for no obvious reason, it is called path dependency. In his speech, Benedikt Fecher illustrates how this phenomenon leads to the current way researchers are publishing their results, and how this hampers scientists who want to move towards open science.

Hendrik Send

THE ENERGY TRANSITION, THE INTERNET AND I?!

Hendrik Send is disappointed with his smart meter. It's actually just a thumb meter that gives him almost no interaction options. He shows how pioneers in this field hack technologies like smart meters to enable user driven innovation in the energy market

Jeanette Hofmann und Wolfgang Schulz

GASTRONOMIC RESEARCH:
THE RIESLING REGULATION IN A TIME OF USER-GENERATED COCKTAILS

Does regulation always depend on laws? Jeanette Hofmann and Wolfgang Schulz talk about the wine growing and mixology communities to illustrate the variety of formal and informal regulations and the explanatory power of governance research.

More information and all videos on www.hiig.de/LNdW2016

FARZANEH BADIEI & JONAS KAISER

YouTube's failed dispute resolution system

When a CEO publicly states that the company is "listening" you know something's up. So when YouTube's CEO Susan Wojcicki was forced to tweet "Thank you @YouTube community for all the feedback. We're listening", this came as the result of a week-long shitstorm that had developed around the hashtags #wtfu (Where's the Fair Use?) and #ProtectYouTubers. At the heart of this public outrage was YouTube's implementation of the fair use doctrine (or its perceived failure to do so) and how this system is being abused. In short, the doctrine allows the public use of copyrighted material "for purposes of commentary and criticism". Even though the distinction between fair use and copyright infringement has always been problematic, this has been exacerbated by the internet. Especially on a platform like YouTube, where users upload everything from illegally copied TV series episodes, to lectures on copyright laws or videos of them dancing to a song from the radio, the lines between fair use and copyright violation can get fuzzy pretty quickly. This is all the more true because some YouTubers nowadays make a living with videos that are heavily based around the usage of copyrighted material (e.g. playing video games or criticising movies). To counter the ensuing problems, YouTube has implemented a system that automatically checks for copyrighted material, and since this system is obviously not perfect, it gives copyright owners the additional opportunity to manually claim that their copyright has been violated. The latter option, however, has often been abused, for example, to silence criticism or to profit from the video's monetisation. So when *ChannelAwesome*, a prominent YouTube studio, recently came out and described their problems with numerous copyright claims that led to 23 days without income, several prominent YouTubers joined them and shared their own stories. In these, they all reported the same troubles with copyright claims or DMCA takedowns (based on the Digital Millennium Copyright Act) and the possibility of getting their channel suspended, which for most is also their source of income. They do, however, also emphasise that their problem lies primarily not with YouTube per se but rather the dispute resolution system in place.

Based on ChannelAwsome's experience, the current system of YouTube copyright claim handling (DMCA) breaches many of the normative criteria of justice in dispute management. Information about where to file the dispute is not accessible, the rules change arbitrarily and without prior notice (affecting predictability). There are no time limits for providing an answer or the time limits are not observed, and access to filing a notice against a takedown notice is hampered because the webforms used to file a complaint against the takedown notice might be defective. Even more problematically, the dispute management platform is not consistent (different users get different forms) and there is a word limit for filing a counter notice on YouTube's dispute

management platform – since the claimant may not be able to explain the claim fully within the word limit their representation and participation might be hampered and having a word limit in place could be considered unfair. The visualisation on the following page illustrates the DMCA process:

It indeed seems as if YouTube is either not managing the disputes – or is choosing not to get involved! But why hasn't anyone at YouTube addressed this issue before? YouTube has even gone so far as to offer legal support to videos that have been subject to DMCA takedowns in cases that they believe represent clear fair uses, but do not get involved by providing a dispute resolution mechanism themselves. The answer might rest in the law. YouTube's resolution system mirrors the US Digital Millennium Copyright Act (1998), Code 512 (g). Legally, copyright disputes on such platforms should be resolved by a court of law. As stipulated in g(3)(D) of DMCA,

> "the subscriber consents to the jurisdiction of Federal District Court for the judicial district in which the address is located, or if the subscriber's address is outside of the United States, for any judicial district in which the service provider may be found, and that the subscriber will accept service of process from the person who provided notification under subsection (c)(1)(C) or an agent of such person."

Legal deterrents aside, YouTube might not want to manage the disputes, as lawyers do not favour dispute management systems and advise against their use. There are liabilities involved with such systems. They might have to adhere to a minimum standard of due process or otherwise risk being sued. Even if their resolution is legally non-binding, they can still be taken to court. And they might be vulnerable to class action lawsuits. A class action lawsuit is usually filed by a group of people on behalf of a larger group. To maintain a dispute management system, the provider incurs a lot of costs and transaction costs. Does the benefit of providing a dispute management mechanism for YouTube outweigh its cost? It might not (for now). YouTube does not refer the disputes to be resolved to a dispute management service; in other words, it does not outsource the provision of dispute resolution to some dispute resolution provider. This might be because of the liability issues that might arise from DMCA, Code 512(g)(3)(D). In other cases, disputes between the users of a platform concerning non-copyright issues have been referred to external services. For example, eBay refers parties' disputes about the feedback and review system to NetNeutrals, an online dispute resolution provider.

What's even more problematic: competition does not help to incentivise YouTube to provide dispute management options, and neither does the law. YouTube has a dominant position in the online video market, so neither YouTubers nor customers

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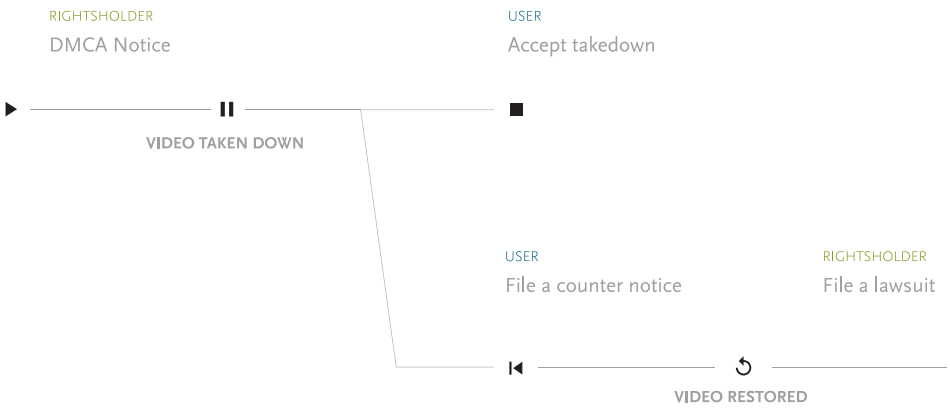

RIGHTSHOLDER
DMCA Notice
USER
Accept takedown
VIDEO TAKEN DOWN
USER
File a counter notice
RIGHTSHOLDER
File a lawsuit
VIDEO RESTORED

can just leave the platform if they don't like its copyright policy. Legally, YouTube is immune from being held liable for the content the users post on the platform, which is a very positive law and which helps preserve freedom of expression. However, the DMCA obliges YouTube to have a takedown and notice process, but it does not oblige YouTube to provide a dispute resolution mechanism and to resolve the copyright dispute between the claimant and the defendant. The main means of redress predicted by DMCA is the referral of parties to court.

Overall, legally and economically speaking, YouTube does not have enough incentives to provide a system that resolves copyright disputes. Indeed, instead of encouraging it to adhere to procedural justice, the current law might even deter it from providing a dispute resolution mechanism. And the main question is: are American courts suitable and accessible venues for addressing global online copyright disputes? However, we have seen before that shitstorms and the publicity they usually bring may force companies to cave in. It remains to be seen whether this storm will prompt YouTube to rethink their dispute resolution practices or whether the issues will remain and the storm will turn out to be one in a teacup after all. ◆

THIS IS AN ARTICLE BY **FARZANEH BADIEI AND JONAS KAISER**

This article was published on 29 March 2016 on the HIIG Blog. Farzaneh Badiei is a doctoral candidate at the Institute of Law and Economics, Hamburg University, Germany and an associated researcher in the Internet and Media Regulation area at HIIG, focusing on the institutional design of online private justice systems in commercial contexts. Jonas Kaiser is an associated researcher at the Chair of Political Communication at Zeppelin University and at Alexander von Humboldt Institute for Internet and Society, and is interested in the networked public sphere, digital methods and political communication. As fellow at the Berkman Klein Center he will focus on right-wing populist movements online from a trans-national perspective.

INTERNET AND MEDIA REGULATION

The internet has become a universal technical platform that shapes public communication. Research in the area of Internet and Media Regulation derives from questions revolving around the normative structure of this new ecology. It can be observed that new intermediaries, as well as established information brokers, play an important role in that structure. In fact, traditional media intermediaries are also participating as mediators in the field of internet communication. In this context, we are particularly interested in developing configurations, investigating the impact these formations have on the production and selection of content and, finally, what this means for normative structures and governance concepts. Lastly, the main focus lies with users' behaviour on social media platforms. .

CYBERSECURITY
FOUR HIIG EXPERTS SQUARE THE CIRCLE

I have a riddle for you: What am I talking about? When it is there, nobody cares. Once it is gone, nothing works. You already know what I'm talking about, and you might even know why. I still remember the golden age of cybersecurity, when the only way to have a virus on your system was to put in the wrong floppy disk. Those days are gone. Today, it's enough to be online without the necessary precautions, and if you make this mistake, script kiddies, criminals, intelligence agencies and many others could immediately be your uninvited guests. The critical security bug Heartbleed, the Snowden revelations, massive data thefts; those incidents have burned cybersecurity issues into the public consciousness. These revelations suggest that we know very little about what is really happening, and the things we know might only be the tip of the iceberg. But times are changing, and cybersecurity law aims to give changes a spin in the right direction.

Therefore, like in an anthology or a Rashomon film, there are several different aspects to the problem. This is why four researchers at HIIG managed to produce four very different and important studies on cybersecurity. As they have or are just about to complete their work, in the following, you will find a brief overview on the innovative questions they asked and the interesting information they found.

Emma Peters looked at data protection in the context of criminal investigations in which prosecutors often try to get hold of the suspect's data. This is an important part of cybersecurity. She found an intriguing trend in that prosecutors very often look for this data by requesting it from third parties, in particular intermediaries. These private third parties often have vast amounts of data about their users at their disposal. Can law enforcement agencies collect this data just as they have been collecting physical objects as evidence since 1877, when the relevant rules of the German Code of Criminal Procedure were originally drafted? And should personal data be less protected just because it is saved in the cloud? The rules in question date back to a time when hardly anybody could and did think of the possibilities for data processing that exist today. This is more than a reason to take a fresh look at things. This is necessary also considering a basic rights perspective. In light of a new investigative measure (secret access to information technology systems) the Federal Constitutional Court has found a right to confidentiality and integrity of information technology systems. It stipulates a higher categorical level of protection than the right of informational self-determination. But does this right also apply to repressive measures? And to systems that are remote from the perspective of the rights bearer? And if yes, under what circumstances? These questions are addressed in the thesis. It proposes a concept of interpretation and delineation of the relevant fundamental rights regarding the research question. Against this background the work concludes that the existing criminal procedural rules are not entirely in conformity with the constitution.

Sebastian Leuschner did what you have to do when you're facing a complex and multifaceted problem. He went back to the roots and back to basics. He inquired into what security meant in the context of basic and human rights. In that regard, building on the Copenhagen school, he defined security as a social and cultural construct. He then went on to inquire into the role of the concept of security in the European human rights context. Security and human rights has been a field of controversy for a long time. This is regularly captured in the opposition of freedom and security. On a more practical level, public security is often invoked as a reason to justify infringements of human rights in a proportionate manner. But human rights can also entail positive obligations, requiring the state to take active security measures. At least some parts of the legal discourse call for a right to security. The author shows how the Court of Justice of the European Union has dealt with these issues and analyses some very important recent developments. He argues that the idea of a fundamental right to security leads to "rights talk" in security politics, which weakens political, non-legal arguments and strengthens securitisation tendencies in this field. He then concludes that the idea of security as a fundamental right does not make sense when security is a social and cultural construct, with its concrete meanings changing in time. Therefore, with regard to European Union Law, the author proposes to instead conceptualise security as a principle, in the sense of Art. 52 para 5 of the EU's Fundamental Rights Charter. Given that, unlike with fundamental rights, the legal content of principles is specified to a much larger extent by the legislature, it is therefore much more open to contemporary meanings of security and to political arguments for and against security measures. It is thus more in line with the idea of security as a social and cultural construct, and more than that, it does prevent "rights talk" in this field. The author illustrates his thoughts by describing the field of cybersecurity as one of "narrative catastrophies" – as a field with particularly strong tendencies towards processes of securitisation.

Hannfried Leisterer's project focused on exploits and how the state ought to use them. So much code is produced every day, and much of it is not produced in a professional context or under the pressure to be as efficient as possible in programming new products. Unsurprisingly, this results in many mistakes, some of which lead to security threats. These mistakes in the code can be exploited and are appropriately named exploits. They are used by the state in criminal investigation or for terrorism prevention in order to infiltrate suspects' IT systems. Yet the state might also be tasked with being a guarantor of cyber-security and closing those vulnerabilities or at least telling the developers so they know. Hannfried's innovative research focuses on this dilemma. He takes a legal perspective that is informed by an approach that is termed Informationsverwaltungsrecht, and which could be described as the administrative law of information. Using this approach, he examines the legal instruments that public cybersecurity actors like the Federal Office for Information Security can draw on to generate security related information (e.g. information on a critical

vulnerability), the legal grounds on which information may be shared among authorities in the European Union, and the extent to which public institutions can inform the public, not only in order to increase awareness but also to facilitate IT security. As a result, he identifies the specific potential of and the limits to increasing European cybersecurity by information sharing.

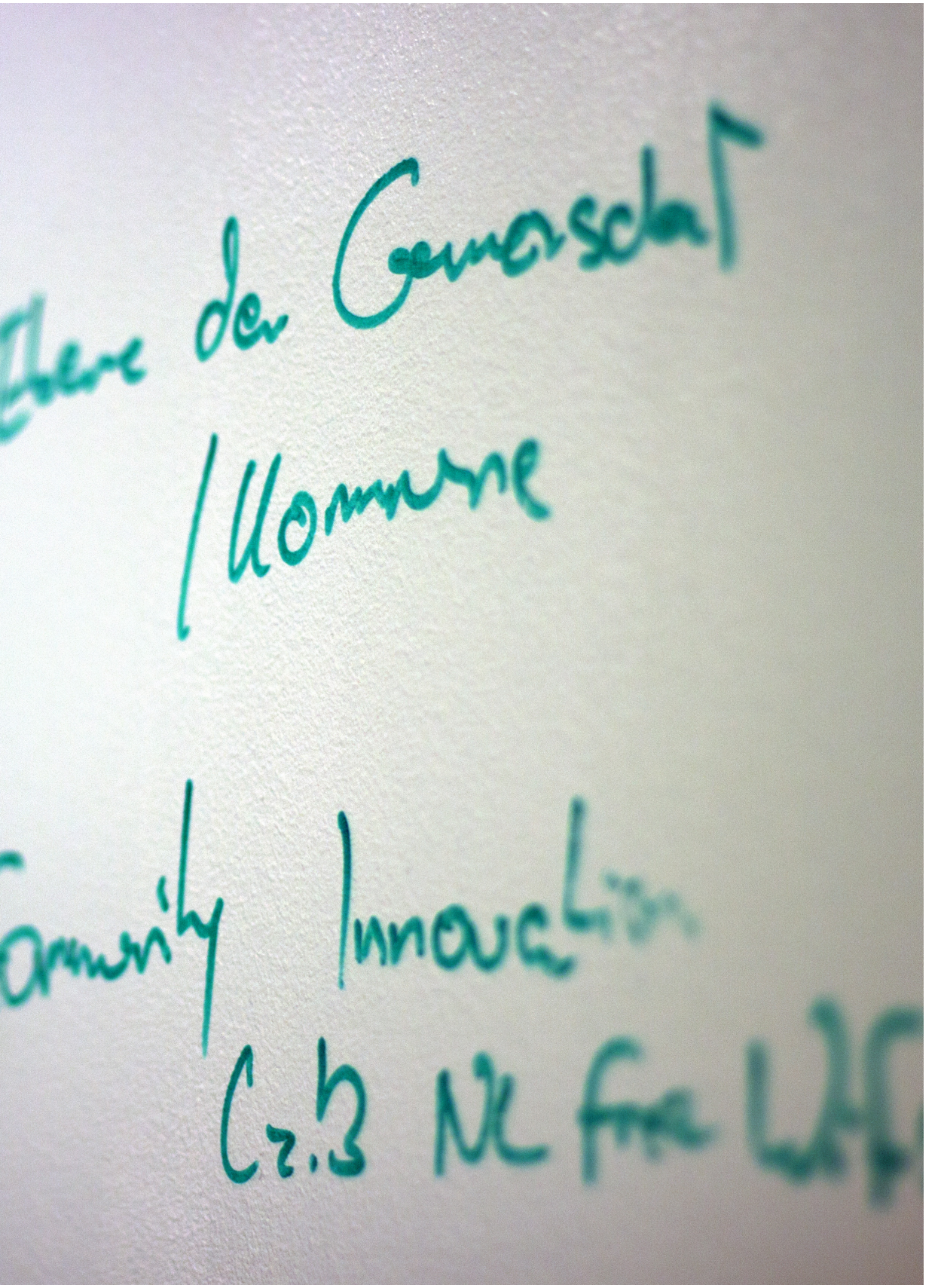
Adrian Haase tackled issues of cybercrime in a rather abstract but also very practical manner. He focused on how criminal law deals with the matter at a European level. Currently, there are already European directives harmonising the law between the member states, but these are far from perfect. Adrian Haase set out to develop a strategy that could tackle the problems of European criminal law. In order to arrive at this strategy, it was necessary to have a better grasp of the notion of cybercrime in the European Union law context, as this notion seems underdeveloped. Adrian Haase managed to carve out the meaning of cybercrime by focusing on a network-based approach instead of working with the usual *basket of criminal acts* approach; he thus concentrated on the unique features of cybercrime versus regular fields of criminal activity. He went on to look at the legal bases in primary and secondary law and found interesting legal problems and gaps. These led him to propose a widening of the competences of the EU in order to change the content of the norms but also prompted him to suggest changes to criminal procedure. In the end, Adrian Haase calls for a European prosecution service that has the competence to prosecute cybercrimes. Whether this idea will be taken up by the European institutions in the near future is far from clear, but if they do, they will be able to draw a lot of inspiration and many good ideas from Adrian Haase's treatise. These directly cover the imminent dangers that are posed by large-scale cyber-attacks on critical infrastructures in the member states of the European Union, with far reaching influences throughout the union. By including certain fields of cybercrime in the competence of a European prosecution service, transnational and serious cybercrime incidents could actually be treated and prosecuted by using the upsides of an ever closer European Union: cooperation and integration. ◆

— Christian Djeffal, senior researcher at HIIG

WRITING'S ON THE WALL

Ideas lead a strange life, you never know when they will come to you. Working offline and in an analogue way to come up with creative ideas becomes even more important when you are embedded in a digital work culture. The innovation team regularly gathers in front of this wall to connect the dots.

THE WASHABLE WALL


Ebene der Gemeinschaft
/Kommune
Community Innovation
Cz.B NL fine Wf

STEFAN BAACK

What big data leaks tell us about the future of journalism – and its past

The Panama Papers were announced by Edward Snowden on Twitter as the "biggest leak in the history of data journalism" with approximately 11.5 million documents provided by an anonymous source to the German newspaper *Süddeutsche Zeitung*. For all the things that made the Panama Papers exceptional, they also represent the latest step in a development that started roughly in 2010, when *WikiLeaks* cooperated with *The New York Times*, *The Guardian* and *Der Spiegel* to publish the Afghan war logs. Compared to the Panama Papers, this leak was tiny: a spreadsheet with 92,201 rows describing military events (Rogers, 2011). However, its release initiated a pattern that has been replicated in almost every major leak that followed. When we compare the Afghan war logs to the Panama Papers, one of the most interesting aspects is not what has changed, but what has not changed. With the exception of the Snowden leaks (where things worked out slightly differently), every major leak since the Afghan war logs included:

- An anonymous source providing the leak using encrypted channels.
- An independent organisation (then *WikiLeaks*, now the *International Consortium of Investigative Journalists* – ICIJ) that acts as a mediator that gives exclusive access to the leak to selected newsrooms in different countries and facilitates collaboration.
- Subsequently, a cross-national collaboration, with each newspaper covering aspects interesting for their national audiences, combined with a simultaneous, international release date of the coverage to ensure greater (international) impact.
- Because the leaks are relatively huge, newsrooms are challenged to employ and advance data journalism techniques so that they can analyse the data, identify relevant aspects and tell stories.

When, in 2010, *WikiLeaks* was at its peak with the release of *the war logs* and *Cablegate*, there were lots of debates about its relationship with journalism. Is or was WikiLeaks a journalistic institution, or merely a source for traditional journalists? I suggest the Panama Papers have demonstrated that Beckett was right when he pointed out that this debate was "really a debate about what journalism is or is becoming. Instead of asking whether WikiLeaks is journalism or not, we should ask 'what kind of journalism is WikiLeaks creating?' The challenge to the rest of journalism is to come up with something as good if not better" (2011, emphasis added). In many ways, the work and discourse around the Panama Papers read as just that: as an attempt not to copy *WikiLeaks*, but to adopt the

practices listed above while simultaneously maintaining and expanding long-standing journalistic practices and identities.

NORMALISING LEAKING

More obviously, news media organisations have adopted technologies similar to what *WikiLeaks* has provided. This is best illustrated by *SecureDrop*, a whistleblower submission system developed by the *Freedom of the Press Foundation*. More generally, there is a growing awareness of online security and an adoption of encryption tools among journalists. A few years ago, Glenn Greenwald (2014) almost missed one of the most significant leaks in history because he didn't want to bother with PGP email encryption. During the Panama Papers investigations, a wide range of different tools was used to safeguard the whistleblower, the leak itself and the ongoing investigation – on a scale that was hard to imagine just five years ago. Moreover, *WikiLeaks'* role as a mediator that organises access and collaborations has been taken up by the ICIJ, a journalistic organisation that has been around much longer than *WikiLeaks*. Unlike *WikiLeaks*, it did not just provide (exclusive) access to the leak, but also developed tools and platforms that help journalists cooperate on a much larger scale. Beyond the adoption and development of new technologies, journalists have also integrated leaking into their traditional working routines and ethics. This has been most visible in the debate over the release of raw documents. From the beginning, transparency advocates – and *WikiLeaks* in particular – were disappointed because *Süddeutsche Zeitung* and the ICIJ refused to release the raw, unedited documents in full, so that others would be able to carry-out their own investigation. Doing so, they argued, would breach the law and be unethical:

> "We are not going to release the raw data and we have valid reasons to do so. The source decided to give the data to journalists and not, f.e., to Wikileaks. As journalists, we have to protect our source… And as responsible journalists we also stick to certain ethical rules: You don't [sic] harm the privacy of people, who are not in the public eye" (Obermeier, Obermayer und Wormer, 2016).

Note the contrast between *WikiLeaks* and the radical type of transparency it stands for (Bodó, 2014) versus responsible journalists, who only publish what is in the public interest. As the ICIJ director Gerard Ryle told *Wired*: "We're not WikiLeaks. We're trying to show that journalism can be done responsibly" (quoted in Greenberg, 2016). In an attempt to re-establish the authority of professional journalism, news media organisations are trying to move the concept of leaking away from radical, Anonymous-style transparency advocacy and into traditional journalistic working routines and ethics.

When we look at how journalists have reacted in the past to other potentially disruptive technologies such as blogging or user-generated content, this rhetoric is hardly surprising. Journalists have a tendency to absorb practices that threaten to undermine their professional autonomy "into conventional hierarchies of newsgathering" (Wahl-Jorgensen 2014, p. 2588), a routine that has been described as normalisation (Singer, 2005). Rather than seeing such practices as opportunities to fundamentally rethink journalism and the way news is made, journalists have tended to rationalise them in a way that maintains their traditional role as gatekeepers of publicly relevant information. The classic example is blogging, which originally appeared to be a threat to journalism's role as a gatekeeper. Today, it is common for news media organisations and individual journalists to have their own blogs.

ALTERNATIVES TO WIKILEAKS

The Panama Papers have demonstrated the degree to which news media organisations have normalised leaking since *WikiLeaks* disrupted journalism in 2010. To be clear, normalising leaking doesn't mean that huge leaks have become normal, but that the way journalists deal with and rationalise those leaks has been routinised and fit into their professional identity. As Beckett has pointed out, to a large extent this has meant coming up "with something as good if not better" than *WikiLeaks*, i.e. becoming a viable alternative that whistleblowers can turn to if they want to share their leaks. By not releasing the unedited documents, the journalists of the *Süddeutsche Zeitung* and the ICIJ have emphasised that they deal with leaks responsibly. The message to potential whistleblowers is as follows: you can share your leaks with journalists to expose wrongdoings without causing harm. Moreover, leaking to journalists instead of *WikiLeaks* promises a large-scale impact because news media organisations are still the best at reaching large audiences, an asset that is further reinforced by their cross-national collaboration. In other words, journalists are not trying to replace *WikiLeaks*, but to contrast it with their own version of leaking that builds on journalistic traditions and maintains their professional autonomy. While advocates for more radical transparency will keep questioning journalists' authority to decide what is in the public interest, this type of boundary work and professionalism among journalists does have positive effects for the public as it helps to strengthen journalists' collective identity, lends them autonomy and authority against the influence of governments or corporations, and emphasises journalism's role as a public service over commercial interests (Lewis, 2012, p. 844). Both genres of leaking – the radical transparency model that promises maximum disclosure and the journalistic one that maintains journalism's gatekeeper role and promises a more considerate publication and large-scale impact – are likely to coexist in the future and will compete for the trust of whistleblowers.

WHAT KIND OF JOURNALISM HAS BEEN CREATED?

The fact that leaking has been normalised doesn't mean it didn't change anything. Quite the contrary: normalisation is change, but not the radical and disruptive type of change that is popular when it comes to new technologies. The changes caused by the normalisation of potentially threatening practices are more subtle, less obvious and relatively slow. The Panama Papers' leak has shown how leaking is supporting two developments that are increasingly shaping investigative journalism: advances in data journalism and automation and a culture of collaboration and sharing.

AUTOMATION, COLLABORATION AND THE IDENTITY OF JOURNALISM

As I've argued elsewhere (Baack, 2013), the coverage of *WikiLeaks*' materials was an important push to establish data journalism in newsrooms. Not only are data journalism techniques necessary to cope with the leaks in the first place; the simultaneous release date of the coverage of the war logs and the Cablegate also internationally demonstrated the advantages of utilising these techniques and establishing dedicated data teams in newsrooms. As Simon Rogers – a data journalist at The Guardian at that time – has commented: "Wikileaks didn't invent data journalism. But it did give newsrooms a reason to adopt it" (2011). The Panama Papers also required new technological advances, not only because the leak was so huge, but also because of the data it contained. Data journalism usually deals with structured data, i.e. quantitative spreadsheet data that can be analysed using statistical tools and methods. But only a tiny fraction of the Panama Papers was structured. The vast majority was unstructured data in the form of emails or scanned documents that required a more in-depth, qualitative analysis.

To work with this type of data, it was crucial to be able to identify those documents that contained relevant information. As Mar Cabra (2016), head of the Data & Research Unit at the ICIJ explains, searching was key in many ways: being able to search through the data in the first place, being able to use more complex search queries, and being able to search systematically and in batches. For example, journalists could create a spreadsheet containing the names of all the politicians in Germany, upload it, and the platform provided by the ICIJ would return the results. Moreover, collaboration and sharing among newsrooms was essential and took place on a much larger scale than ever before, with around 400 journalists involved. Even with advanced search capabilities, a single newsrooms would only manage to examine a tiny fraction of the leak, and a newspaper in Germany would search for and cover different topics than newspapers in other parts of the world. The ICIJ therefore built a customised social network for investigative journalists, with a news feed similar to that of Facebook,

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THIS IS AN ARTICLE BY **STEFAN BAACK**

This article was first published in the ***Internet Policy Review*** and then on the HIIG Blog. Stefan Baack is a PhD student at the University of Groningen in the Netherlands and a research fellow at the Alexander von Humboldt Institute for Internet and Society, focusing on interconnections between hackers and data journalists and the related effects of datafication, the ongoing and increasingly ubiquitous quantification and categorization of culture and society.

GLOBAL CONSTITUTIONALISM AND THE INTERNET

There is no doubt that effective governance beyond national borders is not only needed in areas such as the environment, security, trade and financial markets. It is also clearly imperative with respect to the internet and its function as a global infrastructure for communication and coordination. Against this backdrop, the Alexander von Humboldt Institute for Internet and Society seeks to develop new legal and institutional approaches to transnational and global governance. Their legitimacy is to be based on the principles of human rights and democracy. Global constitutionalism refers to a theoretical framework that puts individuals and non-state entities at the centre of its considerations. In light of ever-closer forms of human interaction and increasing interdependencies, constitutional principles such as human dignity, fundamental rights and freedoms, democracy and participation, separation of powers and the rule of law play an essential role also at a global level.

where journalists from around the world could share their findings with others, thus supporting a collaborative spirit. When we ask what kind of journalism has been created by leaking, what is more important than the technical details, I suggest, is how these practices represent a change in the mentalities and everyday working routines of journalists. Here, I want to point out two aspects that have at least in part evolved due to big data leaks.

First, the collaborative spirit and a culture of sharing is a clear break from the traditional mentality of investigative journalists: "lone wolves" competing for scoops and unwilling to share with others. This change is at least partly due to the interconnections between leaking and data journalism: while leaking has helped to establish data journalism in newsrooms, data journalism has helped to bring a mentality of sharing and collaboration to investigative journalism (Royal, 2010; Lewis and Usher, 2013; Parasie and Dagiral, 2013). This mentality is taken from open source culture and is increasingly shaping not just exceptionally large and significant leaks but also everyday reporting. Here again, these practices have been adopted in ways that maintain journalists' traditional gatekeeper role, which is to say that they are mainly used to facilitate collaborations and exchange among fellow journalists. However, there are signs of change indicating "that journalism's ideological commitment to control, rooted in an institutional instinct toward protecting legitimacy and boundaries, may be giving way to a hybrid logic of adaptability and openness: a willingness to see audiences on a more peer level, to appreciate their contributions, and to find normative purpose in transparency and participation" (Lewis, 2012, p. 851).

Second, journalists are getting better at dealing with unstructured documents and use automation on a larger scale. The basic idea of using computers and statistical methods to support journalism is not new: Philip Meyer (2002) first articulated it in the 1970s, long before these practices were called "data journalism" (Anderson, 2015). However, the expansion of the internet has greatly increased the scale at which these techniques can be performed. The investigations around the Panama Papers demonstrate that there is much potential when using automation in newsrooms, even though Adrian Holovaty's (2006) vision has still not been fully realised. He argued that news media organisations should systematically collect, analyse and re-purpose their data to "supplement, routinize, or algorithmically expand the scope" of their traditional journalistic practices (Anderson, 2013, p. 1008). This is not just significant because it could expand the agency of journalists. Automation and computational technologies could also increasingly "become objects of discourse through which organized fields such as journalism reflexively make sense of their particular capacities and place in the world" (Bucher, 2016, p. 13). Ascribing meaning to the computational is also "about ascribing meaning to journalism by way of talking about what computation can and

cannot do" (Bucher, 2016, p. 13), and raising questions "striking at the core of how journalism should be understood" (Carlson, 2015, p. 429). Here again, we can see patterns of normalisation, as journalists tend to either point out that the essence of journalism cannot be automated (like human instinct) or rationalise computation as journalism, arguing that the design and development of computational tools should uphold traditional values like objectivity or impartiality (Stavelin, 2013).

This brief look at how leaking has changed journalism should make us sceptical of grand narratives proclaiming the disruption of journalism. In the foreseeable future, journalism will in many ways look very similar to what it looked like in the past. It will operate on a larger scale and journalists will be forced to re-articulate their professional identity and role, but if the history of normalisation can teach us a lesson, it is that changes will occur in ways that preserve traditional journalistic values, practices, ethics and its role as a gatekeeper of publicly relevant information. ◆

FABIAN WARISLOHNER

The small big-data-government: should we do as Estonia does?

We read the news, send photos and shop online. Only our interactions with state authorities still largely take place offline. In certain countries, such as Estonia, there has been more progress in this regard: there, it takes just five minutes to do your taxes online, without any tax advisors. No wonder that the Alexander von Humboldt Institute for Internet and Society (HIIG) invited the Embassy of "e-Stonia" to discuss the topic of Big Data For President. Changing address or registering a business: in Estonia, you don't need to walk to an office or get a stamp. Thanks to digital administration, all the data needed for a person's tax returns is already on file; citizens just need to cast a glance at the result and click on submit. In the future, no interaction should be necessary at all, said Siim Sikkut, Digital Policy Adviser at the Government Office of Estonia, in his keynote speech.

Although the first German computer system for calculating pensions began operating in 1956, to this day many applications must still be submitted on paper. In Estonia, by contrast, newborn babies get a number from the authorities before they are even given a name, as the hospital immediately reports their birth to the state. Processes like this are considered part of a service orientation – as customers, taxpaying citizens demand that public authorities adapt to the internet-based reality of everyday life. Although not everyone will share this neo-liberal understanding of the state, in Germany, it is intended that file management, communication and payment will also be done digitally in the future. To achieve this, the German parliament introduced the *E-Government Act* in 2013.

INDUSTRY HOPES FOR PROFIT

In a paperless, networked administration, it is not about the clerk entering the data into the computer while the citizen watches from the other side of the desk. People will not just be able to download forms and print them out from home, but also – comfortably – sign them online, instantaneously. McKinsey has calculated that this could allow Europe to save 250 billion euros each year. The time savings for citizens are another advantage. Industry is hoping for big business: Cisco's big data expert Dirk Mahnkopf, for example, commends the Swiss transport planning system, which reduced "costs, fraud and error" by analysing people's (mobile) data. The German public remains sceptical: the first attempt to provide secure communication with the authorities – the De-Mail system agreed on in 2011 – can be considered a failure due to its lack of acceptance. The new ID card presented in 2010 does contain an electronic identity and signature function, but many people do not enable these functions in the first place. This may also be because public agencies and companies do not offer enough useful applications for this to make sense.

(EVEN) MORE DATA FOR THE STATE

Digitalised administration can allow for an easier exchange of data between authorities. Citizens only have to enter their data once – the Estonian administration operates on an *ask-only-once* principle. In Germany, the data is still scattered in different filing cabinets – treasures just waiting to be analysed for the good of the population?

The state could collect and bring together more data: administrative data, communications data, health data. At best, this would make our administration more efficient and our lives more convenient: Big Data for President. According to Sikkut, data analysis by the state brings citizens' needs and wishes to the fore. Software could calculate what we care about based on the websites we visit. Analysing health data would provide early warnings about diseases; irregularities in income and taxes would be noticed earlier on. Forecasts of all kinds could be created. Algorithms would allow the police to be at the scene of a crime before it even happens.

WHAT ARE THE DANGERS?

But the flip side of big data has to be considered: government-funded data collection and analysis would subject individuals to even more scrutiny. The secret services would certainly rejoice. But, in our urge to optimise, do we run the risk of endangering privacy? Even if data is technically anonymised, it may be possible to retroactively link it to an individual due to the amount of data. Data is often looked on as a kind of commodity, as the new oil. But such considerations fall short: data constitutes the digital image of the person, whose dignity is inviolable according to the German Basic Law. Without a question, companies would be delighted to get the funds to build a digital administration. But we should be cautious: all this data could be used against us one day.

Attacks on IT systems are increasing worldwide. Estonia does not share health data with third parties, and citizens have the right to prevent the disclosure of certain items in their health profile – but this only applies until the next data leak. Having too many safety functions usually comes at the expense of usability. A fully networked administration increases opportunities for attacks. Data could be manipulated or taken by criminals and intelligence services; there are many unknowns.

This also applies to electronic elections, which seem to not just be attractive for citizens living abroad: a review of the Estonian electronic voting system found significant deficiencies, and from a safety point of view, the election software is insufficient. In addition, elections must be open to scrutiny. Computer systems are only safe to a certain extent: they are not just manipulable, but also rather opaque.

continue reading on page 62 ⏭

THIS IS AN ARTICLE BY **FABIAN WARISLOHER**

This article was published on 22 March 2016 in the Internet Policy Review. Fabian Warisloher studied philosophy and economics and writes about issues of data protection, secret services and the European Union.

INTERNET POLICY REVIEW

The Internet Policy Review is an open access, fast track and peer-reviewed journal on internet regulation. It tracks public regulatory changes, as well as private policy developments which are expected to have long lasting impacts on European societies. It is thereby a resource on internet policy for academics, civil society advocates, entrepreneurs, the media and policymakers alike. The journal is published on a rolling quarterly basis by the Alexander von Humboldt Institute for Internet and Society in Berlin, in collaboration with the UK research consortium CREATe and the French Institut des sciences de la communication at the CNRS. Special issues are published on specific topics, ranging from big data to the sharing economy.

AN OUTLOOK

One aspect of digitalisation that is associated with lower risks are new methods of participation: citizens can comment on legislative processes online early on. Online consultations, such as those for Tempelhofer Feld park in Berlin or online discourses give the public's opinions and ideas more of an airing.

There are also great hopes for Open (Government) Data: instead of maintaining official silence, governments and administrations would make data freely available. Interested parties could, for example, critically question data about government contracts or statistics or suggest applications for it. As far as the free disclosure of government data is concerned, Germany is still behind Georgia[1] – but that is set to change with the E-Government Act, too. In this context, data protection should not be forgotten. Because transparency is not an end in itself: It should ensure equal treatment for all and provide protection against corruption and manipulation, not create new power imbalances.

In this respect, the legal requirements for the digitalisation of the state in Germany are clear: creating efficiency and diminishing bureaucracy are desirable, but data protection and privacy have constitutional priority. ◆

FOOTNOTES

1 See the Open Government Index of the World Justice Project, in the "Right to Information" section. Germany is ranked 22nd and Georgia is ranked 16th. The reason why I picked Georgia is that it stands out in the leading group and has a lower rate on the Human Development Index (0.754) by far than the nearby countries on the list.

LECTURE SERIES BIG DATA: BIG POWER SHIFTS?

Big Data has been a major issue in internet-related public debates for several years now, which have tried to clarify its as-yet-unclear impact on societies, politics and markets. The lecture series *Big data: big power shifts?*, coorganised with the Vodafone Institute for Society and Communications, asked visionary speakers to share their perspectives on societal shifts and changes in face of networked digital media and big data. The initial event took place in 2015 and tackled the importance of digital media and big data for modern societies and especially the humanities. The panel discussions that were subsequently held addressed different areas that are being transformed by big data, namely health, education and governance. To dive deeper into the scientific discussion around big data, the *Internet policy review* published a special issue on big data.

Read the special issue on www.policyreview.info/node/406

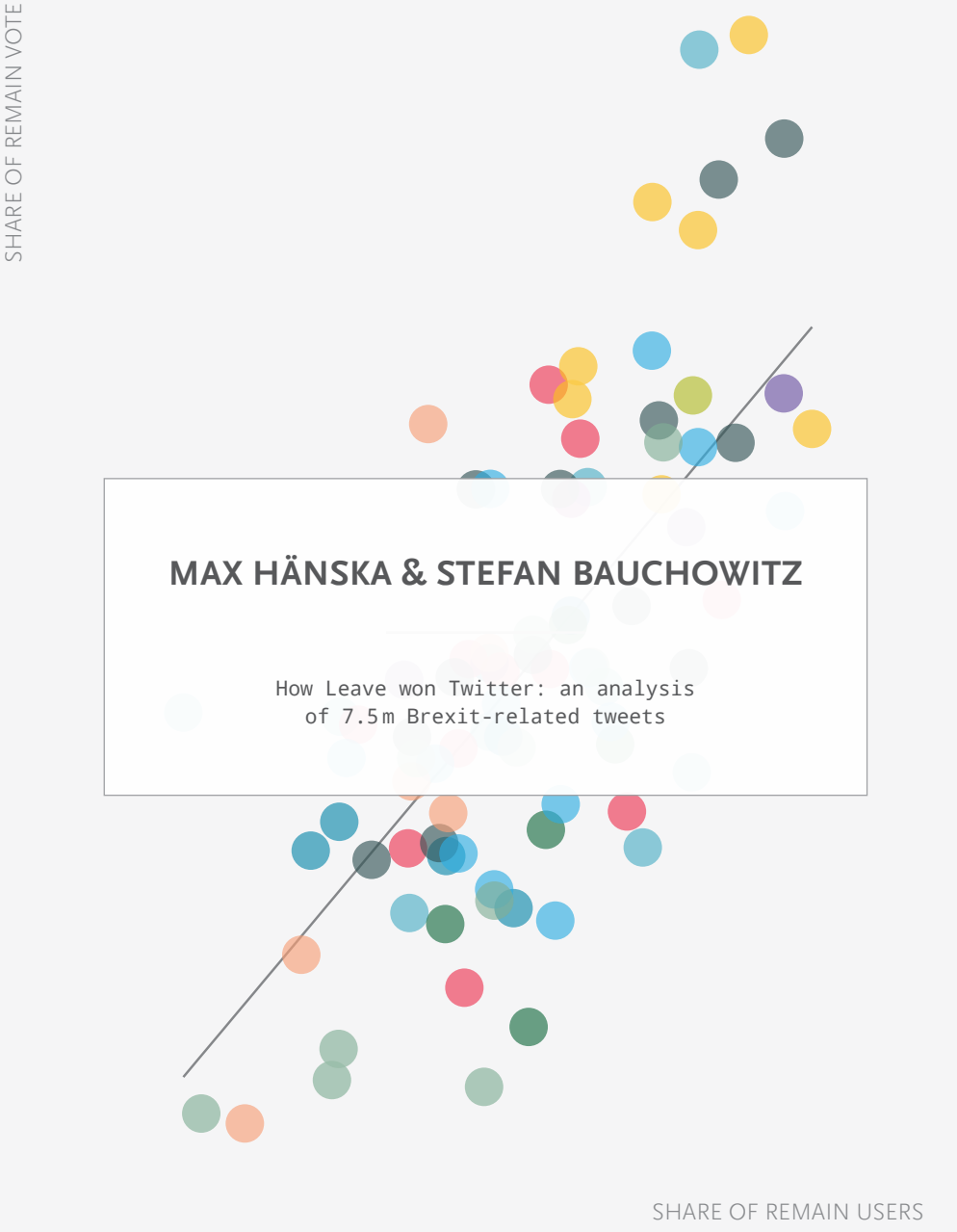
MAKING SENSE OF BIG DATA
05 Nov 2015 | British Embassy Berlin

BIG DATA FOR HEALTH. WHO BENEFITS?
10 Feb 2016 | Berlin Museum of Medical History at the Charité

BIG DATA FOR PRESIDENT
14 Mar 2016 | Estonian Embassy in Berlin

FROM ALMA MATER TO ALGO MATER
22 Jun 2016 | Berlin-Brandenburg Academy of Sciences and Humanities

More information and all videos on www.hiig.de/bigdata



MAX HÄNSKA & STEFAN BAUCHOWITZ

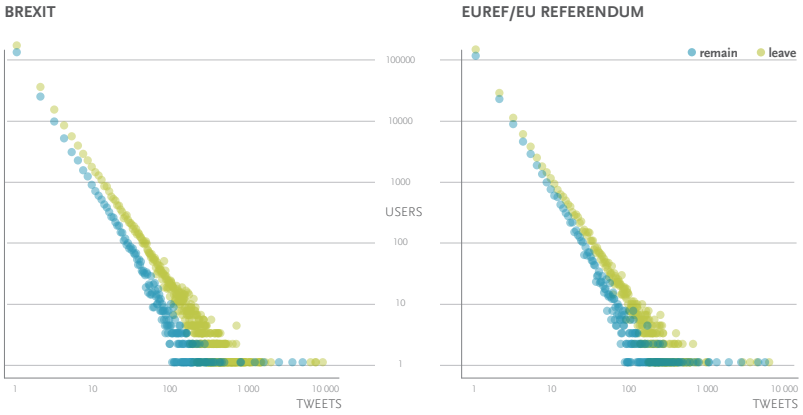
How Leave won Twitter: an analysis of 7.5m Brexit-related tweets

How did Eurosceptic (leave) and pro-European (remain) activity compare on social media in the run-up to the EU referendum, and was there a relationship between social media users and votes? To find out how leave and remain compared, we collected more than 7.5 million Brexit related tweets during the 23 days leading up to the referendum through Twitter's streaming API. We used a support vector machine to identify which tweets clearly supported the leave or remain camp (and manually coded a random sub-sample of those tweets to ensure our allocation was reliable). Due to the polarising nature of the issue, the process worked well, and the model correctly identified most tweets. We used the result of this exercise to assign each user in our sample to one of the two camps.

We collected tweets containing the terms *Brexit*, *EUref* and *EU Referendum*, all of which were frequently used to refer to the referendum. While the term Brexit has great currency across both camps, it was used more often by users who wanted to leave the EU as it lends itself more easily to positive slogans, e.g. "Can't wait for #Brexit to win!" or "Brexit to save Europe" and "Brexit means Brexit". Even though EURef and EU Referendum are more neutral terms, in both sub-samples we found that support for leaving, measured by the number of tweets, outstripped support for remaining by a factor of 2.3 and 1.75 respectively. The margins confirm a slight bias in the term Brexit, where the strength of leave over remain was more pronounced. Overall it is clear that the army of leave users was larger in number and more active in tweeting their cause (see figure on next page).

Other researchers examining Google search trends, Instagram posts, and Facebook found something similar – i.e. that Eurosceptic views were being communicated with greater intensity by a greater number of users. Researchers from Loughborough University revealed that, weighted for circulation, 82% of newspaper articles were pro-Leave (Loughborough University, 2016). British people had greater exposure to Eurosceptic than pro-European opinions in both print and social media. We also mapped Twitter activity onto local authority districts (see visualisation on the previous page). To do this, we used Google's and Bing's geo coding services to translate user-provided location information into geographical coordinates, which we then matched with local authority districts. This is not an exact science, both because many users provide no or fictitious location information in their profiles, and because the more granular the geo-location information required, the more error-prone the result. As many users specify their location as *London* rather than its constituent boroughs, we aggregated all tweets from users located there. We plotted the share of users supporting remain against share of the remain vote. We excluded districts where we identified fewer than 200 users, giving us usable data for 100 local authorities. There is clearly a pattern in how the referendum campaign unfolded on Twitter, with those wanting to leave communicating in greater numbers and with a greater intensity. Districts with a greater share of Twitter users supporting leave also tended to vote for leaving the EU, meaning that Twitter activity correlates with voting in the referendum. Yet we must be cautious to

avoid over-interpretation. This particularly applies to claims that social media can predict election outcomes, the problems of which have been pointedly enumerated. Finding a pattern in the data post hoc is quite a different thing than confidently identifying and interpreting the pattern ex ante – the leave camp was ahead on social media by a much larger margin than it ultimately was in the vote. This means it is unclear how researchers could have interpreted the results of a Twitter analysis before the vote. The most significant problem is that we lack the demographic descriptors of social media users that would enable us to weight or interpret results.



Level of tweet activity by keyword ***Brexit*** *vs. level of tweet activity by keyword* ***EURef/EU Referendum***

Nevertheless, given that Twitter users are generally thought to be younger and young people tended to vote remain, the result is surprising either way. It seems plausible that leave voters were more motivated, and consequently more active on Twitter. It also seems likely that slogans such as vote leave, take control, or even Brexit lent themselves better to a simple message (this is particularly useful given the constraints of a tweet), and allowed different interpretations, with the result that users could project their desired meaning onto the slogan. Whether in the press or on social media, British voters were more likely to encounter messages that favoured leaving the EU than those that favoured remaining. ◆

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THIS IS AN ARTICLE BY **MAX HÄNSKA AND STEFAN BAUCHOWITZ**

This article was first published on 19 August 2016 on the Brexit Blog by the London School of Economics and afterwards on the HIIG Blog. Max Hänska is a lecturer and assistant professor at De Montfort University (UK) where his research interests center on social media, political communication and collective decision-making. During the summer he was a visiting researcher at HIIG. Stefan Bauchowitz completed a PhD in Development Studies at the LSE. His research focuses on the role of oil and mining companies in developing countries and efforts to regulate their behaviour. He is also interested in public opinion and polling.

VISITING RESEARCHERS AT HIIG

The Humboldt Institute for Internet and Society serves as a host institution for visiting researchers coming from a variety of backgrounds and countries. It offers them the possibility to enrich their advanced doctoral studies or postdoc with a research stay for two to twelve months as part of a young scientific community in the area of internet and society.

"It is not a German law, a Spanish law or an Italian law;
it is a European law."

DATA PROTECTION – A EUROPEAN PROJECT WITH A HAPPY ENDING?

On 14 April 2016, the plenary session of the European Parliament completed the legislative process for the General Data Protection Regulation. As rapporteur of the European Parliament, Jan Philipp Albrecht took part in the negotiation with the European Council of Ministers and the European Commission. The documentary *Democracy. Im Rausch der Daten* gives insights into his work in Brussels. In late April 2016, after the screening of the movie at Humboldt-Universität zu Berlin, Maximilian von Grafenstein spoke with Jan Philipp Albrecht about the complex legislative process.

Max von Grafenstein: The General Data Protection Regulation will replace the 1995 directive and is thus intended to bring data protection into the digital age. Why did the commission, after announcing a great modern approach, base the General Data Protection Regulation on the same principles used by the Data Protection Directive?

Jan Philipp Albrecht: The directive also builds on the system of past and other laws on data protection, as well as on the system of the fundamental rights to data protection in the constitutions of the member countries, in the Charter of Fundamental Rights and also on the judgements of the European Court of Human Rights. This means that there is a list of principles guiding data protection and its implementation. The reservation of authorisation was always an inherent part of the principle of data protection, meaning that data can only be processed if I either get the consent of the data subject or find some other legal basis. It was obvious that these legal bases, as well as the additional rights emerging from primary law – access, correction of inaccurate data, information rights – should be encapsulated in the regulation.

Twenty-eight member states were involved in the legislative process, and constitutionally, these have very different objects of protection and protection concepts for data protection. The Germans have the right to informational self-determination; Italian data protection is regulated in the context of communication rights, and others regard it as privacy. The key term is learning process: did the agreement of 28 countries on an object of protection or concept result in a mutual learning process?

I believe that people learned a lot from each other, but above all regarding the concrete application and enforcement of data protection law. For example, people learned from the Germans that a company data protection officer is a good and helpful concept for the enforcement of data protection. People also took principles from other legal systems, such as privacy by design, the issue of the portability of the data and how to formulate the balancing of interests. These were discussions in which everyone let themselves be influenced by everyone else to some extent, so that the best result could emerge. Nevertheless, it is a European process. This means not just taking a bit from here and there, but also discussing things in a European context. It is not a German law, a Spanish law or an Italian law; it is a European law and it is, of course, built on a European legal basis. The Charter of Fundamental Rights has now been binding for almost seven years and the European Court of Justice has already made it clear what the objects of protection are in relation to data protection. These have to be a point of orientation for everyone, including the national courts. They will not be able to assess data protection in this regulation according to their national constitutional law; they will have to assess it against European law, the European Charter of Fundamental Rights and the case law of the European Court of Justice.

There is a second aspect of the learning process: one problem with data protection is that people have little understanding of the technical and economic processes in which data is processed. Did the contribution of the private sector, which submitted nearly 4000 suggested amendments, offer insights into the economic and technological processes?

Definitely. This broad influence also led to a huge learning process among the participants in the legislative process, because, of course, an incredible number of new perspectives were introduced. Some of these perspectives were quite unexpected: even Danish shipowners have their own concerns. That is why it is important and good that we allow more influence from the outside. I believe it is just as necessary and important that influence is exerted in a balanced way, and this was also the reason for the uproar, because 80 to 90 per cent of the influence came from one industry. However, it is important to differentiate between the various actors who added their voices to the conversation. There are some who propose an amendment, request a change or bring up an interest that is solely in the interests of their own profit and which does not add any value for the legislator at all. And there are those who did genuinely contribute something valuable to the process. This concerned, for example, the question of what technical standards should apply for *do-not-track* procedures or how to make information about data processing as understandable as

possible for the consumer via visualisation. We also worked together with some actors from the industry, who progressively exerted more influence and introduced new perspectives when developing these changes. It is not like we just let things slip through our fingers.

What are the major improvements compared to the old directive?

The greatest step forward achieved in this regulation is that in the future we will have a uniform regulation in Europe and hence in the European single market (the largest one in the world) and have thus created many factors that will contribute to better protection for consumers and a fair market for businesses that functions more effectively. This goes hand in hand with a reduction in bureaucracy, and, by the way, also of legal uncertainty, since deciding on one word instead of 28 different words (albeit with 28 different cultures of interpretation) already creates a degree of legal certainty. It is not that we can get rid of legal uncertainty; I believe no law can do this, because all words, even the words *and* or *or*, are open to interpretation and dispute. But we were able to significantly reduce legal uncertainty within a framework that also remains technologically neutral, i.e. independent of the technology used, and is thus able to cope with technical changes. Anyone who tries to define things in such a way as to provide virtually no room for interpretation will not be able to legally respond to new technical and economic developments in the coming years, because that would require this legislative process to be conducted every year, and that would not make much sense.

And the greatest loss?

The regulation could only be adopted because the member states were given the opportunity to continue making adjustments and rules in many areas at a national level. In a time of far-reaching digitalisation in all areas of life, this is already a drawback, and personally, I would have preferred if, for example, in the area of marketing, the perspective of consumers who would like greater decision-making powers, had been more strongly involved in the balancing of interests. Even if the companies constantly say that consumers don't really want that. Unfortunately, there was nothing more to get from the other parties. And in the end, although we had to compromise, what we achieved is stronger than any national data protection legislation so far. ◆

DECONSTRUCTING A VERBAL SPARRING MATCH

An analysis of the preceeding Interview with Jan Philipp Albrecht.

More than four years after the European Commission published the first draft, the EU General Data Protection Regulation (GDPR) was adopted in April 2016 by the European Parliament, coming into force in May 2018 after a two-year transition period. The regulation is, like data protection in general, a highly contested issue. There are deeply conflicting views on what the problem is about: privacy, surveillance and/or data protection; what needs to be protected and against whom; how the protection concept is to be designed, or which protection mechanisms should be applied. This contested quality is reflected in the many very public and often harsh clashes between different stakeholders in the course of the legislative process.

The contested nature of the GDPR deeply influenced this interview between Max von Grafenstein and Jan-Philipp Albrecht. Yet it is quite invisible for people unfamiliar with the specific ideological and conceptual battlegrounds, as both the interviewer Grafenstein and the interviewee Albrecht spar verbally with coded references to some of these very contentious issues. So let's deconstruct some of the rhetorical tools and narratives employed by both Grafenstein and Albrecht in order to shed light on the underlying ideological positions.

Grafenstein starts the interview by referring to the "great modern approach" the EU Commission had announced previously, which he then contrasts with the presented draft that is "based on the 1995 directive's system". By framing this alternative approach as "modern", Grafenstein subliminally marks the enacted regulation as outdated, probably in an attempt to delegitimise it. This alternative approach is never explicated, though. Albrecht counters with a rhetorical means of his own: he simply switches the reference system from temporal (outdated vs. modern) to hierarchical. He refers to the member states' constitutions, the Charter of Fundamental Rights of the European Union, and the case law of the European Court of Human Rights as the regulation's foundations. Albrecht seems to imply that any different approach would be unconstitutional – a different delegitimisation strategy than Grafenstein's, but equally powerful.

In his second question, Grafenstein refers to the vastly different understandings of what the legally protected good is and how the concept of protection should be conceived. Whether

or not the protection principles or the means of protection mentioned by Albrecht in his answer – e.g. privacy by design or data portability – are necessary and sufficient to protect the protected good depends on how this very interest is defined. As neither Grafenstein nor Albrecht explicate what this protected good is – or ought to be, according to their own vested interests – their argument is unintelligible for most readers. Additionally, by referring to the negotiation process as a "learning process", the vested interests and the conflicting values are obscured and a necessity for the seemingly unknowing lawmaker to learn is simultaneously implied.

This "need-to-learn" framing is even more apparent in Grafenstein's third question – and it is similarly misleading. By asking whether the lawmaker gained any new insights from the many proposals submitted by businesses into how modern information processing works, economically as well as technically, Grafenstein obscures the main purpose of the consultation: to enable stakeholders, not only businesses, but also public authorities, academia and civil society, to influence policy-making in order to increase the democratic legitimacy of policy decisions. As the key purpose of these public consultations – in contrast to hearings – is not to receive objective and impartial expert opinions, Albrecht's critique of many of the businesses' contributions is similarly misleading. Not only is there nothing wrong in stakeholders pursuing profit or submitting interest-driven statements, by criticising stakeholders for failing to provide "added value" for the lawmaker, Albrecht implicitly attacks them simply for having interests different from those of the data subjects.

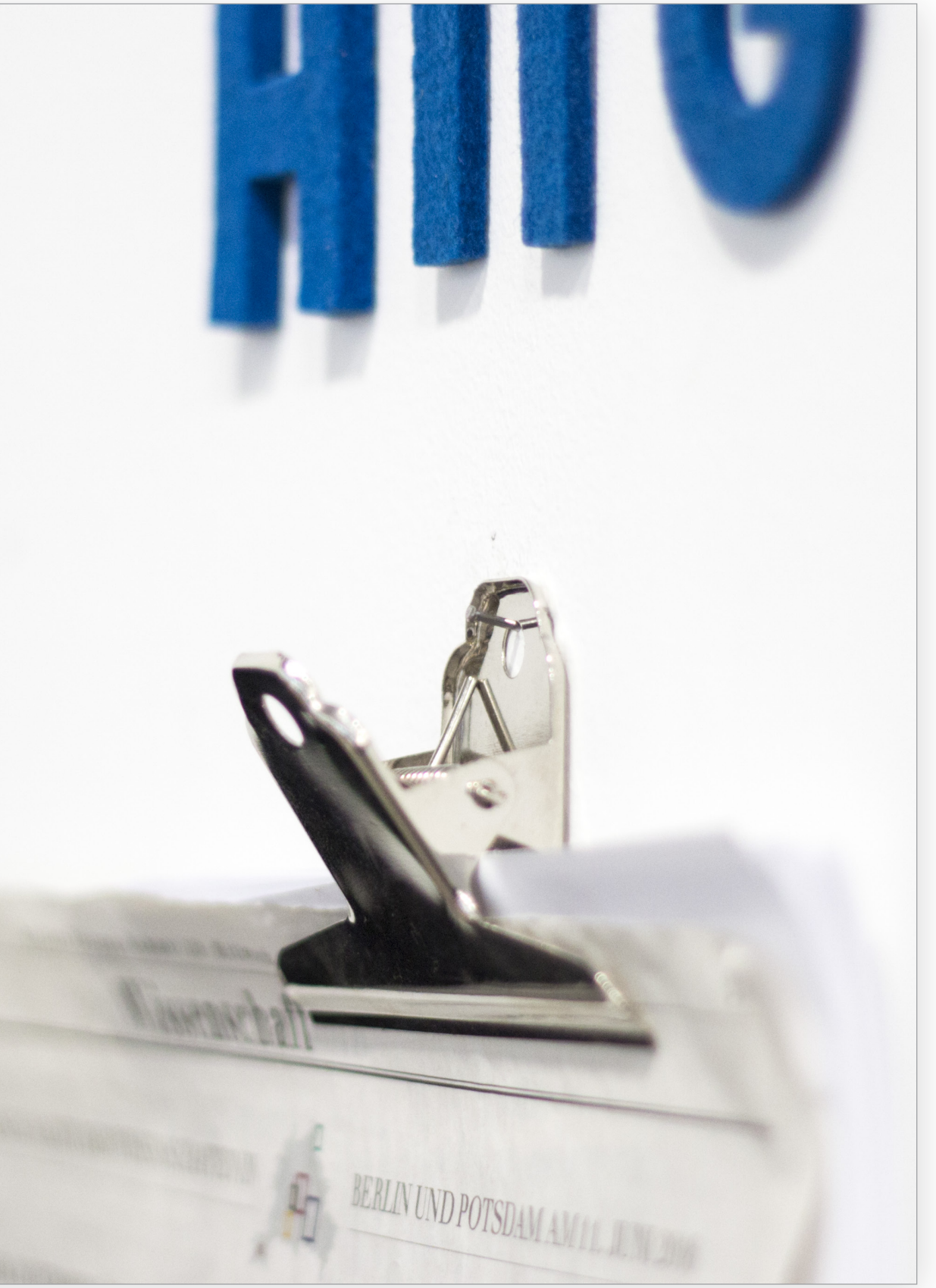
While nothing indicates that either Grafenstein or Albrecht or both deliberately try to mislead each other or the reader, their own ideological positions and vested interests still shine through their use of terms, narratives and other rhetorical means. The interview is therefore a striking example of the essentially contested quality of privacy, surveillance, data protection and especially the new GDPR. ◆

— Jörg Pohle, researcher at HIIG

YESTERDAY'S NEWS IS OLD NEWS

Our lives are increasingly shaped by checking never ending news streams. What's relevant can be left behind easily, so it almost can be a relief to touch some real paper, which is why we created an offline clipping board to keep everyone at the institute up to date about the news publications about HIIG researchers.

THE PRESS CLIPPING


Wissenschaft
BERLIN UND POTSDAM AM 1. JUNI 2006

BENEDIKT FECHER & GERT G. WAGNER

Open access or the re-conquest of autonomy

With regard to open access, the academic world is once again on the verge of reverting to a dependence on large publishers. But it doesn't have to be this way, according to Benedikt Fecher and Gert G. Wagner: by making intelligent investments in its information infrastructure, the academia could regain some of its autonomy.

The entrepreneur and first president of the Donors' Association for the Promotion of Humanities and Sciences in Germany (Stifterverband für die Deutsche Wissenschaft) Richard Merton would probably be happy about open access, that is, free access to scientific articles and books via the internet. That's because Merton was an entrepreneur who was as concerned with the progress of science as he was with social progress – and open access doesn't just have the potential to contribute to scientific progress but also to social progress worldwide. Robert K. Merton, a prominent American sociologist of science, would be at least as pleased with open access as his namesake Richard Merton. For Robert K. Merton (not related to Richard), organised scepticism, universalism, disinterestedness and communitarianism were at the core of ethical science. Communitarianism requires that the results of scientific work be the product of cooperative efforts and thus be available to all scientists. The demands for open access, that is, free online access to scientific articles, translate Merton's principles of good science for the digital age. But today, the reality of access to scientific literature is quite different. According to a study conducted on behalf of the EU Commission, in 2012, just thirteen percent of articles in peer-reviewed journals were available free of charge. Although this has increased in recent years, the majority of decent publications are still behind paywalls erected by commercial publishers. And that's a big problem for scientists, especially in countries with a science infrastructure that is still in development, as well as for members of civil society who want to keep up with the latest developments.

It's therefore not surprising that research funding bodies and science policymakers are increasingly advocating open access. It was only in May 2016 that the EU Competitiveness Council, which includes all the ministers responsible for science, announced that all EU-funded scientific publications should be freely available on the internet by 2020. This call was followed a few weeks ago by the Federal Ministry of Education and Research (BMBF), which launched its own open access strategy. We can assume that this shift to open access will primarily occur via the so-called gold route and offsetting deals. This means that publishing houses are paid by authors for publication and then make these articles accessible to the public. The basis for this strategy was an influential white paper published by the Max Planck Digital Library in 2015, in which the authors argue that a complete

shift to open access can be achieved without incurring extra costs. According to this, people should not pay for reading but for publishing.

This idea may initially seem absurd, but in fact it is generally accepted in science policy. Libraries have always been publicly financed – readers do not have to pay the publishers the price for reading out of their own pockets. In addition, the publishers of scientific books receive print subsidies from public funds. And in recent times, large research funding organisations such as the German Research Foundation (DFG) or the Leibniz Association have begun providing their scientists with funds to cover the fees that publishers demand for open access publications (mostly in journals). Following this logic, scientific institutions are currently negotiating large offsetting deals with publishers, in which a certain sum of money is paid to a publisher so that the publisher does not charge any open access fees or only charges reduced fees and makes the articles openly available on the internet upon publication. The printing grant for books has thus been transformed into a complete reimbursement of costs for journals.

A NEW STRATEGY WITH PITFALLS

If the aim is to make all the results of publicly funded research – or at least those that are published in journals – publically available on the internet, then this strategy seems sensible. Yet it has a major pitfall, namely that it reproduces the far-reaching dependence of science on commercial publishers in the digital age. To accurately assess the dependence of science on publishers, it is worth looking back to the past. By the end of the sixties, specialist journals were predominantly published by academic associations, i.e. by the academic world itself. In order to reduce their administrative workload, they decided to outsource the journals to professional publishers. In addition, the introduction of the *Science Citation Index*, a bibliometric instrument, led to the development of *core journals*. At the beginning, it was only about helping libraries to select the journal subscriptions. But the high impact of the top journals, measured in terms of citations, has made them a more popular place for scientific publication than ever before. Top publications ultimately decide on professorial appointments and third-party funding – and researchers who do not publish in top-level publications at least want to publish a great deal in order to collect impact points.

While in the sixties, when journals still had to be printed and distributed, the division of labour between the academic world and the publishers was meaningful, this division of labour now, at least in article publications, almost feels as if it has come from another time. Publishers play an increasingly negligible role in scientific value creation and they could be rationalised out of existence. Scientists write, assess and evaluate articles. The publishing house organises the process and publishes the articles under its masthead.

continue reading on page 83 ⏭

THIS IS AN ARTICLE BY **BENEDIKT FECHER AND GERT G. WAGNER**

This article was first published on 3 November 2016 on Merton Online Magazine and afterwards on the HIIG Blog. Gert G. Wagner is professor for economics at TU Berlin and board member at DIW Berlin. Benedikt Fecher is a doctoral researcher at DIW Berlin and in the Opening Science project at the Humboldt Institute for Internet and Society, focusing on data sharing in academia.

OPENING SCIENCE

Online technologies hold great promise for academic research. Scholars can connect and exchange data through repositories. New tools, such as web crawlers or reference managers, enrich methodologies and have the capacity to facilitate research, and scholarly publishing is increasingly moving online where alternative formats for communication, such as blogs, emerge. At the same time, new expectations regarding the accessibility of scholarly content grow. The research project Opening Science investigates the impact that the internet has on scholarly practices and how online technologies can be used to make research more accessible. It deals with topics such as academic data sharing, collaborative writing, and citizen science.

But it is precisely this organisation and distribution that digital technologies reduce and simplify. High-quality open access journals can now be organised and maintained by departmental groups in cooperation with university libraries. One example is the social scientific journal Survey Research Methods, which is based at the University of Konstanz's library.

DOING AWAY WITH THE INTERMEDIARY FUNCTION OF PUBLISHERS

The fact that publishers are issuing an invitation to the negotiation table to discuss the future of scientific publishing reveals two things: first, that publishers have now recognised a lucrative business model in tax-subsidised open access. And second, that academia has learned little from the past. The academic world does not seem to have noticed that the current policy will lead to a direct reproduction of their print dependency in digital form. The much-heralded transformation of the market for scientific publishing is revealed on closer inspection to be a mere expansion of printing grants, as is customary for specialist books, to fully cover the costs for journal publication. One little-discussed possibility for making scientific publications available on the internet in a cost-efficient manner is for the scholarly community to dispense with the intermediary function of the publishers and commit themselves more strongly to a publishing role. This would require decisive large scale action. One could imagine the four renowned German research institutes – the Leibniz Association, the Max Planck Society, the Helmholtz Association and the Fraunhofer Society – joining forces to form their own open access journal platform. The platform could be operated by the large German research libraries and could also include a repository for the research data and materials that are the basis for these publications.

Public funding would not constitute preferential treatment of such a platform, since scientific publishers are effectively also subsidised by the state via printing grants and subscriptions from publicly funded libraries. On the new platform, individual journals could be set up for many subject areas along with a smaller number of central multidisciplinary journals devoted specifically to current issues and the transfer of scientific knowledge to civil society. For a platform of this kind to succeed, the essential prerequisite is that the disciplinary associations convince their best scientists to join the editorial boards and encourage scientists to publish in these new journals. In contrast to the purely license-based view of open access that currently determines research policy, an intelligent investment in an autonomous infrastructure could help science to regain a piece of its self-evident autonomy. The two Mertons we mentioned at the outset of this article would surely be pleased. ◆

"Social media is a first draft of the present."

KNOCK KNOCK, WHO'S THERE? GATEWATCHING RELOADED.

Axel Bruns has been following the transformation of journalism and gatewatching that was triggered by the rise of the internet and social media. 2005 his book *Gatewatching: Collaborative Online News Production* was published, now he is working on an update of his thoughts. Prof. Axel Bruns came to HIIG as a visiting researcher during the summer. He is an Australian Research Council Future Fellow and Professor in the Digital Media Research Centre at Queensland University of Technology in Brisbane, Australia and was interviewed by HIIG researcher Kirsten Gollatz.

Kirsten Gollatz: What are the questions that brought you to Berlin, and did you find any answers?

Axel Bruns: I'm currently working on a book that picks up the story of citizen journalism from where my 2005 monograph Gatewatching: Collaborative Online News Production left off: the transformation of journalism and our overall engagement with the news in a rapidly changing media environment. Speaking with HIIG colleagues who are observing media industry trends has helped me understand better how journalists and the media themselves are adjusting – some grudgingly, some with more enthusiasm – to new disruptions arising from internet technologies. This is in addition to the comparatively better understood audience side of the story, where many of us have already conducted major studies of how audiences – especially on social media – engage with the news.

Back in 2005 you published your book, Gatewatching, introducing an alternative to the seminal paradigm of journalistic gatekeeping. Today, a decade later, you are working on a revision of the book. Why the update?

So much has happened in the meantime: at the time I finished the 2005 book, Facebook had barely moved beyond a handful of elite universities on the US East Coast, and Twitter hadn't even been born yet. Today, to put it simply, no major event is news unless it trends on Twitter and gets its own hashtag. This has also substantially changed the face of user engagement with the news. The fundamental problem for the first generation of citizen journalism had always been that it required a great deal of commitment: you had to set up your own blog, write lengthy posts, promote your site and attract and maintain an active

readership. It also created some very clear and deep distinctions between professional and citizen journalists: they had their own, separate spaces, demarcated by imprints and domain names.

Today, social media plays a crucial role as a third space, a neutral space, which is used by journalists, ordinary users, politicians, political junkies, experts, sources and other parties alike, and where those different stakeholders can and do actually engage with one another directly. Blogs never were the "random acts of journalism" that JD Lasica envisaged in 2003 – but social media posts are; in fact, given how many users engage in sharing and commenting on newsworthy information via social media, I would argue that we've moved beyond random, and towards committing habitual acts of journalism in such spaces.

In one of the workshops you held at the institute, you introduced to us the term "demoticisation". In relation to your work on social media and the public sphere, what do you mean by it?

Demotic derives from the Greek demos, the people. It means something like of the people, or popular in its literal sense (without the affective dimension that the term has acquired more recently). Ancient Egypt, for instance, developed a demotic script: a set of characters used by ordinary people, as opposed to the formal hieroglyphs of official texts and inscriptions. I've begun to use the term to express the argument above, that social media have enabled a demoticisation of gatewatching and citizen journalism practices: a substantial increase in the population of users who are engaging in habitual acts of (citizen) journalism, well beyond the political junkies from whom the blogosphere recruited its participants.

At the same time, demoticisation still retains a distinction from democratisation, which was one of the more utopian expectations associated with citizen journalism: neither citizen journalism through blogs nor news engagement through social media are likely to lead to a democratisation of the news, if by that term we mean that they accurately reflect and represent popular opinion in society. But they have made it possible for a much broader range of people to engage with and comment on the news, compared to earlier generations of citizen journalism – and in this way, they've demoticised such engagement.

"Social media is a first draft of the present" – you said in a recent paper. It indicates that popular online platforms have taken on the role as important sources of our social interactions. What follows when the locus of real-time communication and news engagement shifts to these platforms?

Katrin Weller and I argue that these interpretations of current events by ordinary people through social media, whatever we might think of their quality, are important reflections of how these people responded to these events; collectively, they express at least part of the contemporary public mood, and they do so at an unusually fine resolution that is measured in the second-by-second timestamps attached to each post. We have no comparable source of historical data from pre-social media days: ordinary people are largely absent from a historical record that favours kings and queens, democrats and dictators, until universal literacy popularised (indeed, demoticised) the writing of personal diaries and letters in relatively recent times, and even then such personal records have been far less likely to survive than official documents and news media reports.

Since it began to be archived and preserved, the news media has provided us with a more comprehensive record of the times – that's why it's been described as "a first rough draft of history" – but news reports are ultimately written from the perspective of journalists. Social media content, however, is even closer to real time, and represents more immediate responses – that's why we suggest that social media is a first draft of the present. And what follows from this is that we must now work seriously on preserving this material as an important resource for future historians: we cannot rely on social media platforms themselves to do so, because they have a habit of going out of business.

Thank you Axel, it was a true pleasure having you visit the Humboldt Institute. ◆

"*Internet rules!* as a conference and a concept means finding the boundaries of current internet practice, politics and everyday experience. Both exploring why those boundaries exist and also the ways in which people are playing with those boundaries. For me the conference has been as much about breaking rules as it has been about making rules."

Sharif Mowlabocus, Senior Lecturer of Media Studies, University of Sussex

#AOIR2016

"The topic of the conference *Internet Rules!* is interesting to me personally because a lot of the work that I do looks at how people use internet technologies to maintain and form social relationships. A lot of those practices are bound by norms or rules that they import from face-to-face or other channels. Given that there are different kinds of practices that are constrained and enabled online, there is a constant set of changes. The space is constantly in flux, because people are trying to figure out the rules of the particular technology, but then also the rules within the relationship."

Nicole Allison, Professor in the School of Information, University of Michigan

"When I first heard the name *Internet Rules!* I didn't really know which of the many various meanings the organisers had in mind when they came up with this title. You can think of it as the internet rules because the internet is really cool. You can think of it as the internet rules and regulates society and all sorts of public discussion. Or you could think about all the different ways in which the internet governs itself or is ruled by all sorts of different dynamics. Having seen the conference now I think it is probably typical for AoIR, which is very interdisciplinary; it has actually managed to address all three, which was kind of to be expected."

Katharina Kinder-Kurlanda, Head of Secure Data Center, GESIS Leibniz Institute for Social Sciences Cologne

"So, for me, the question of Internet rules is really a question about visibility. Visibility can become relevant in several dimensions. It is a question of social norms: who decides what we get to see, for example, on the news? What kind of stuff do we want to show to people we know on Facebook, Twitter and on Instagram? It's a question of power, who decides on these rules, but also a question of style and aesthetics. What is ok to show, what is cool or what is ugly?"

Maria Schreiber, PhD Student at the University of Vienna

"The internet is governed by rules and always has been, by standards and protocols that allow the network to function and channel its activity. But it would be a mistake to think that these rules were ever neutral, and they are becoming less so. As the net comes to be dominated by large corporations, as internet service providers argue that they should be able to favour some users over others, that is not a settled debate. And as the network becomes a way for governments and large companies to track the activities of users, many of these debates become only more pressing."

Gita Manaktala, Editorial Director of MIT Press

For the Hans-Bredow-Institut and the Humboldt Institute for Internet and Society, it was a great honour to host the annual conference of the Association of Internet Researchers (AoIR) in October 2016. 580 researchers from all around the world gathered in Berlin to discuss the latest developments in the field of internet and society research. For *encore* we selected a few AoIR participants who described what the motto of the conference *Internet Rules!* meant to them, which were broadcasted over the Hans-Bredow-Institut's podcast *Bredowcast*. They reflect upon their own work and the challenges the internet generates. Furthermore *encore* had the chance to discuss the power of platforms with José van Dijck, who gave the keynote speech at AoIR, and is an important actor in her field.

"Of course, newspapers and television channels still exist and are important, but the distributing agency has now seriously gravitated towards one specific node: Facebook."

THE POWER OF PLATFORMS

Emerging platforms like Facebook, Twitter or Instagram structure public discussion and news perception. As their user numbers grow steadily, their influence also grows. José van Dijck, Professor at the Department of Media Studies at University of Amsterdam argues that we are more and more living in a platform society which is shaped by changing power structures in favour of these new platforms. In an interview with HIIG researcher Kirsten Gollatz she discusses the challenges and opportunities of this development.

Kirsten Gollatz: In your opening keynote at this year's AoIR conference you presented the foundations of what you call the platform society. Why do you think we should focus more on platforms?

José van Dijck: We have used a couple of terms over the years: information and knowledge society, and later network society. All those ideas basically focus on neutral terms, like the network, which mostly meant a network of users. The early concepts were very much centred on users, including promises of online spaces to which everyone has equal access, of building communities and networks. In the 1990s and early 2000s, this was what the internet was still all about. It was very utopian.

This sort of utopian space, we can no longer believe in, I think. When Facebook started in 2004, you could already see the first signs of this utopia disintegrating because of a shift in power relations. The whole idea that some players are more equal than others manifested itself when Facebook started to grow really quickly. I think 2008 was a switching point from networks to platforms. Ever since platforms have become more powerful. That is why I started to use the concept of platforms – introduced by Tarleton Gillespie – and later the "platform society". I hesitated to do so before because it also ascribes power by giving something a name. But platforms have so overwhelmingly become the centre of power that it is hard to believe it is going to change over the next years. The network society has not disappeared, but the power of platforms is now so evident that you simply have to study its effects.

Where can we see these power plays of platforms happening? Where do you find it most concerning?

I think news is a very important area. Here we see automated selection mechanisms defining what news we get to see and read. In the United States, for example, almost half

of the news people read they receive through their Facebook newsfeed. That is an incredible number. Of course, newspapers and television channels still exist and are important, but the distributing agency has now seriously gravitated towards one specific node: Facebook. This is astounding and disconcerting. Of course, people still have a choice in what news to consume. But the automated mechanisms that are behind the platforms and the way they are interconnected should make us think about how this ecosystem works. The choices underlying these platform mechanisms are implicit, and furthermore, they are interrelated: the algorithms that personalise your news stream are connected to the friends you have, and the friends you have are involved in selecting what your newsfeed looks like. The complexity of the platform system makes it very difficult for us to discern where the locus of selective power actually is.

Do the users of platforms have a role left to play? How is the user configured in a platform society?

In my last book *The Culture of Connectivity*, which came out in 2013, I still ascribed a positive and active role to the user. I think in a platform society this is less the case. Back in the early days users still complained when Facebook did something that was against their desire or expectation. Of course, there is still protest from Facebook users. But with 1.7 billion of them, this is a drop in a bucket. That is neither a group nor a community; that is simply everyone. The user has become an abstract concept, which is decreasingly connected to a reality that he or she is able to understand. That is why I think the power agency of a user has decreased since platforms have taken over. The user has given up his or her agency partly to automated selection mechanisms. These are personalising any data stream that is somehow connected. Credit scores, for instance, are defined by at least 200 data points. I have heard of other data companies in the US that own more than 1,500 data points of over 500 million people in the world. A user is no longer a real user, but a set of assembled and structured data points, a machine-readable user.

The algorithmic configuration of users on platforms is one side. In your keynote you also indicated that platforms shape the negotiation of public concerns and thereby bypass institutions that are in charge of protecting public values.

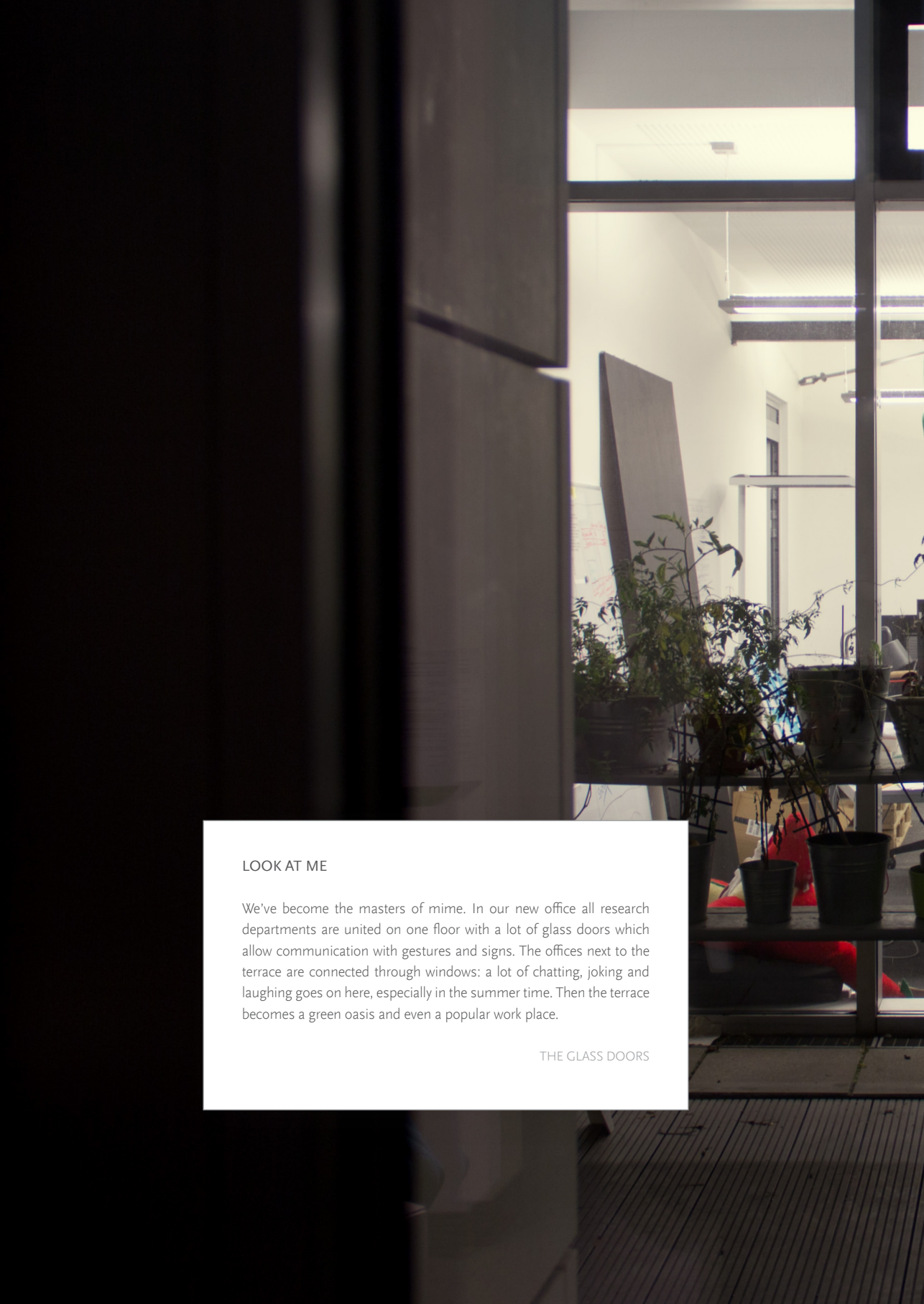
In health care, this is worrying. The institutions that defend public values like privacy and anti-discrimination are subject to certain laws. Moreover, hospitals and doctors' offices had public value regulations written into their professional code. Any doctor you go to is prohibited from giving data away to third parties, for example. Well, today this is bypassed by any type of e-health app that transmits your health scores directly from you using an app to a company that gathers the data. And the regulators don't know what to do about it.

We talk a lot about the big five companies, Apple, Google, Microsoft, Amazon, and Facebook. In addition, there are thousands of tech startups that constitute a platform ecosystem. Complexity again appears as a factor that makes it harder to grasp the scope and type of businesses we see emerging in a platform society.

Perhaps, and I am not an expert in economics or law, we need to think differently about companies. There are now the big five companies that call themselves online platforms or tech companies. But what are they? These companies operate in many different sectors and are not calling themselves a health company or a transportation company. Even Uber says, "We are not a transportation company. We don't have cars, we don't have drivers." Philips no longer promotes itself as a healthcare electronics company but communicates, "We are into data". Identifying what companies are and what they do is a very significant concept. What can we reasonably expect from companies, especially in terms of the responsibilities they have, and to what extent can they be held accountable? As long as companies are just accountable to their shareholders, and not to citizens, or voters or democracies, who is ruling the platform society? That's one of my main questions that is not easy to answer. This is also a very fundamental question in anti-trust legislation, which is still based on defining the percentage of ownership a company has in one specific sector.

In your opinion, will the platform society be capable of questioning the policies and practices that govern the digital spheres? And will we have the possibility of voicing alternative ways?

I am a very optimistic person. My intention is to make people aware of how it works, of the forces that are currently governing our platforms and our societies. Over the past years, we have seen clashes between local governing bodies and Airbnb and Uber, just as we saw backlashes of users in the beginning of social media. Now we observe similar things with the sharing economy, which I prefer to call the platform society. In our attempt to push back we have to be critical, but also realistic. You can't stop the growth of platforms. In fact, we have to negotiate between companies, citizens and consumers for the best possible democratic governance of platforms in a society that is governed by platforms. Of course we will face more clashes. But eventually another system will emerge, and you better be right at the heart of this negotiation system. It is important to be part of this emerging system. That's simply my perhaps naive, idealistic stance. ◆



LOOK AT ME

We've become the masters of mime. In our new office all research departments are united on one floor with a lot of glass doors which allow communication with gestures and signs. The offices next to the terrace are connected through windows: a lot of chatting, joking and laughing goes on here, especially in the summer time. Then the terrace becomes a green oasis and even a popular work place.

THE GLASS DOORS

We have asked two internet pioneers about their utopias.

DIGITALER SALON IS THIS UTOPIA?

The internet started off as a free uncontrollable space, a place for global knowledge and communication that would transcend class, gender and origin. What is left of these utopian ideas? Right before the 10th edition of re:publica, the Digitaler Salon opened its doors to discuss utopian ideas with Andreas Gebhard, founder of re:publica and Jeanette Hofmann, political scientist and academic director at HIIG among others. Theresa Züger interviewed these two pioneers in their fields, who have been observing the evolution of the internet from different perspectives.

ANDREAS GEBHARD

Theresa Züger: You have witnessed many phases of the internet: did you have utopian hopes for it at the beginning and what has become of them?

Andreas Gebhard: I had none at all. In the early years, I just put the AOL CD in the computer and got an AOL address. I'm not a nerd and never was, and I can't claim that I know much about technology. But I've always been interested in non-corruptible content, such as open source licenses or free software licenses. I knew that if I contributed to this it would retain the same status in the future and would not be sidelined by special interests.

Are web-based utopias a dangerous instance of wishful thinking or a motivating ideal?

If you don't think in visionary ways, nothing new will emerge. At the same time, the question is always whether something can also be implemented in practice, in the here and now. Neither extreme is the right way. This is why I advocate thinking about how ideas and ideals can be linked to people's current actions in a long-term and visionary way.

Are there issues where you suspect that we are pursuing utopias that society cannot fulfill? What topics do you sometimes find yourself entertaining utopian thoughts or hopes about?

What makes me angry is the eGovernment issue. Billions of euros of public money are being spent on crappy, shitty software! And what a poor digital infrastructure for government

issues we have! You could say that the state is actually a *digital laggard* – that's how badly the infrastructure is set up. And yet, we are being promoted as oh-so-ready. You only need to go into a government office and check what technology they have. The other thing is that 15-year-olds all have devices in their pocket that allow them to be in contact with more people than the most connected developer 15 years ago. This reality alone, which was just a utopia a short time ago, impresses me. If Moore's law is correct and computing power doubles every 18 months, this development will continue. If we don't just think about the technologies that are available now, but also those that will play a role in five or ten years, things look extremely exciting and also potentially lucrative.

Do you think utopias should be taken into account when it comes to regulating the digital world?

It is always difficult to assess and structure developments that we don't properly understand and which often require almost speculative jurisprudence. Creating a set of rules today for the things that are going to come in the future is, of course, extremely difficult; that's why it is important to include the utopian factor if you don't want to end up on the wrong track.

What role do you think research can play in terms of network utopias?

For many years, I have felt that research is eager to explore mechanisms on the net because they are new and professors do not understand much of them. I believe that digital research has to be more daring. At the moment, I could not describe what digital research really means or does. What is a digital researcher then? There is not even a prejudice about digital researchers, because such researchers do not really exist. While there are certainly tens of thousands of researchers worldwide who do this, there is a lack of role models. I'd like to see an emancipation of research towards the digital, away from the purely descriptive, towards becoming an actor.

WE ALSO ASKED JEANETTE HOFMANN

Theresa Züger: You have witnessed many phases of the internet: did you have utopian hopes for it at the beginning and what has become of them?

Jeanette Hofmann: First of all, the users of the 1990s did not regard their expectations as utopian. For a short time, it seemed conceivable that the internet would be powerful enough to offer an alternative space beyond the reach of territorial nation states; an alternative whose rules would effectively work independent of national governments. The background to these hopes was a sort of culture war between different concepts of data networks. Computer scientists advocated a decentralised network architecture that allocated control over data, services and applications at the endpoint, while the established telecommunication industry promoted a centralised architecture modelled after the telephone networks. The latter model would have established one operator per country with control over applications and services. Culturally, the small internet universe back then was viewed in black and white terms: support of the free and open internet sort of implied a rejection of state authority over digital resources and the belief in grassroot self-organisation. The Internet seemed to offer another chance to self-organise and get things right.

Are web-based utopias a dangerous instance of wishful thinking or a motivating ideal?

Today, I would say they offer a great chance to learn from one's own shortsightedness. I am still pretty aware today of all the implicit assumptions that guided my thinking and that, at some point in time, turned out to be simply wrong. Now I can detect the same kinds of hopes and passionate attitudes in others. For some time, utopias can be great drivers but it seems important to tune one's mind towards their shortcomings and learn lessons from the discrepancy between expectations and actual experiences.

Are there issues where you suspect that we are pursuing utopias that society cannot fulfill? What topics do you sometimes find yourself entertaining utopian thoughts or hopes about?

I would say that the concept of democracy and its promise of societal self-determination has a great utopian dimension. And it might be the discrepancy between the democratic promise and actual democratic practices that many people find so frustrating that they either stop watching and voting or vote for right-wing parties. I had strong hopes in the

DSALON

early days of the Internet Governance Forum but also during the NetMundial conference in 2013. At that time, I very much believed in the merits of the multi-stakeholder process in the transnational field of internet governance. Later I reflected on my observations in an article about the fictional dimension of the multi-stakeholder discourse. I shouldn't forget the HIIG. Starting an interdisciplinary research institute on Internet and digitalisation is itself driven by dreams.

Do you think utopias should be taken into account when it comes to regulating the digital world?

Personally, today I am glad when regulation appears to be done in a competent and unbiased manner; when new laws or policies do not sacrifice the openness and other aspects of the internet we have come to cherish. I like to regard utopias as drivers of political oppositions, of inventors, technology developers and perhaps also of startups. I lack the imagination to see them as a resource for public administrations.

What role do you think research can play in terms of network utopias?

This is a good question. I think utopias can be studied as an important aspect of the zeitgeist that may indicate what people at a given time associate with the good life. It may also be a good idea to historicise utopias and investigate how they change over time and how this change relates to other social transformations. We know that there are links between technology development and utopian thinking. Examples with direct relevance for the internet are Vannevar Bush's Memex or Doug Engelbart's ideas about augmenting the human intellect. To some extent, both anticipated the digital means of organising information and the impact they would have on our life. ◆

ABOUT DIGITALER SALON

Our well-established monthly discussion panel has found a permanent home – every last Wednesday of the month we open the doors of HIIG to welcome a diverse audience and special guests from academia, journalism and business to discuss relevant questions about digitalisation and society. Digitaler Salon is broadcast by the Kooperative Berlin and DRadio Wissen and can also be followed via livestream. The topics in 2016 ranged from the potential and danger of drones, the phenomenon of hate speech on the internet, to digital detox and finding your match online.

UTA MEIER-HAHN

What do network operators sell to each other?

Comparisons rarely work. They never fit properly; they almost always lead away from the topic. And the audience's attention is lost in unimportant details. Therefore, writers do themselves few favours when they use comparisons as stylistic tools. I once read that in a book about speech writing (Franz, 2015). But there is one exception: the remote comparison. The further away the object of comparison, the better. The remote comparison is intended to show how absurd a situation is. The market at the core of the internet is like a movie without a title.

On 30 April 1995, the internet acquired a screenplay. This established a new setting: the predecessor of the internet, the research network NSFNET was privatised. From this point on, commercial traffic via the backbone of the internet would be fully permitted (Mathew, 2014, p. 42). And everyone was allowed to join in. Of course there were more rules. But what is important about this date is that it marked the beginning of the commercial internet. Hand in hand with the technical infrastructure, the internet was to develop as an infrastructural economic space. Private companies were particularly expected to develop the network infrastructure via the market and establish internet connectivity. But there were few ideas of what exactly the market at the core of the internet would look like and what network operators would trade with each other. One might say that the screenwriters had forgotten the title. But perhaps they had omitted it intentionally.

MARKETS NEED OBJECTS

The market sociologist Patrick Aspers analyses markets based on five criteria: first, based on what is traded, secondly, based on the social structure of a market, thirdly, based on the interests of actors, fourthly, based on the surrounding culture and, fifthly, based on how the traded things are assigned value (Aspers 2011, p. 82 f.). How network operators do business with each other is interesting from all these viewpoints. For reasons of space I will confine myself here to the first criterion, the what of a market. What rights to services or products do market participants offer each other? Only when this is clear can we speak of a market, according to Aspers. For many markets, this question can easily be answered. The flower, car or currency markets already contain the objects they exchange in their names. In the market at the core of the internet, the situation is different. Here, network operators technically connect their networks and thus jointly create the internet. By establishing internet connectivity, the companies also enter into economic relations. But are these network operators trading something, and if so, what? What is the title of the movie? The picture that emerges from

my interviews with 50 network engineers, peering coordinators and industry observers is not a unified one. Most of them find it difficult to define the good or service in this area. Their imaginaries of the objects of the market can be divided into six categories. In practice, these views frequently appear side-by-side or even in opposition to each other.

Network capacity. By interconnecting their networks, network operators put each other in a position to send traffic to endpoints on the internet or receive it from these endpoints. This capacity is the resource that network operators offer each other. They measure it in volume per time, that is, in bits per second. Networkers determine the quality of network capacity as an object based on criteria such as packet loss, latency or jitter.

Routes. When they are interconnecting, two networks communicate to each other what destinations on the internet they can reach for the now connected network via what pathways between two points in the network. Two types of arrangements can be distinguished here: in so-called peering, the interconnection only involves networks opening routes to endpoints in their own network and their customer's networks, but not to endpoints for which they must pay them. Destinations in this case refer to IP addresses. The unit of commerce in this sense is the route, that is the precise pathway. In cases of transit, the transit provider offers the transit taker more, namely the opportunity to exchange data with all endpoints on the internet. Networkers assess the quality of routes based on the length of the pathway – the shorter, the better. Seldom-used routes are worth more than those that are easily available.

Usage rights for the physical connection. From this perspective, the product is made up of the individual components that require an investment of effort or money by a network operator. That may include network resources such as routers, switches or fibreglass, as well as personnel, licenses or electricity. In this understanding, the market service rests on the fact that network operators grant each other the right to use physical and logistical infrastructures.

The exchange of external resources. In the case of peering – recall that here, only the peering partner's own and their customer's routes are shared – some networkers demand that their interconnection be understood as an exchange relationship. Money may also flow, but it does not have to. A commonly used phrase describing the exchange is content for eyeballs. Networks on one side provide direct access to content; networks on the other side provide access to end-users. An internet provider commented: "I am selling access to credit cards." But content and access to end-users are not the only resources that network operators exchange. It is said that banks – yes, even banks and

insurance companies now operate networks! – offer other network operators financial services for access to their internet users. In both variants, the technical parameters of the interconnection itself slip into the background of the exchange relationship. Instead, the actors bring external resources that they produce or control into the negotiation.

A connection-oriented relationship. This notion relies on a feature of the technical architecture of the internet. This involves neither an item for trade nor a service model. Network operators exchange data using the Internet Protocol (IP). The IP is a so-called stateless packet switching protocol. IP divides contents in small packets for transport. These packets can be theoretically routed to their destination via different pathways and through many interconnected networks on the internet. At the destination, an application reassembles them. Unlike in the postal system or when airlines work together, network operators do not transfer entities to each other, such as parcels, or rights to seats on the plane; they only transmit disjointed fragments. The network itself thus cannot register any transactions. Instead, there is only one persistent connection between two networks, that is, a relationship. The connection itself and the understanding of roles that emerges as a result of this relationship becomes the subject of commercial negotiations. Even without a specific object of exchange, situations may arise where a network ultimately pays for the interconnection. This may be the case even when both parties achieve cost savings in the process, because they exclude third parties from their business by creating a direct peering connection between each other. Such scenarios are called paid peering.

This role distribution leads to a kind of evaluation poker. Every network operator seeks to convince the other that the other party is benefitting more from the interconnection and should therefore pay. One interviewee likened this game of nerves to an encounter between two animals in the jungle at night: both only see the reflecting eyes of the other. To avoid a fight, one animal must give up and come out of the situation as the weaker party. In this framing, the negotiation between network operators does not lead to a disclosure or an actual equalisation of power. Instead, it remains a symbolic power struggle, which nonetheless assigns the two network operators roles in the economic relationship – they become customers and vendors, or they become peers.

No market at the core of the internet. Many network operators state that the direct interconnection of networks during peering takes place in a market environment. However, they consider these markets as something that does not relate to the interconnection itself. They do not identify themselves as participants in what others call the interconnection market (Zarnekow, Wulf & of Bornstaedt, 2013). They see themselves primarily as participants in markets that are external to the interconnection in which they act as providers. This is the case when a content delivery network

announces that its product will speed up content on the internet, when a social network indicates it will deliver 100 per cent of the product online, or when one of the world's largest internet providers claims that peering improves its actual network products. In all of these cases, the network operators see the value of the peering connections in the fact that they facilitate business in their end-customer markets ('it's an enabler'). They understand the direct interconnection with other networks as a precondition for their own value creation, but they do not recognise that this value creates a market in itself. Some of these network operators have publicly proclaimed that internet providers should have end users, and not other operators, cover their costs.

VARIETY OF FRAMINGS LEADS TO UNCERTAINTY

What can this variety of answers say about how network operators do business with each other? First, it is evident that the categories significantly differ. The services in this market appear to be nebulous or even contested. The diversity of views network operators on the object traded initially suggests uncertainty in the market rather than stability.

The first three categories are compatible with the market principle: network capacity, routes and the physical connection. What they share is that they build on relatively strong levels of formalisation. This allows network operators to compare offers. Bits per second, routes or the cost of hardware can be approximately measured and provide starting points for an assessment. However, these categories are not globally standardised among network operators. Even the perhaps most standardised product, *IP transit*, can have different characteristics. Perhaps that is one reason why there are no comparison sites such as Amazon.com for connectivity services. Currently, network operators are mainly finding out who is offering transit where and for what price, by word-of-mouth. More consensus on the what of the market would obviously increase transparency, facilitate evaluations and thus increase competition among network operators. This is not favoured by everyone, as shown by the controversy surrounding the initiative by two network engineers, who publicly compare the offers of internet exchange points with each other.[1]

The last three categories (the exchange of external resources, a connection-oriented relationship and no market) cast doubt on the concept of an interconnection market itself. The initial question about the what of the market that is assumed to exist at the core of the internet brings more forms of economic coordination to light, namely bartering and (social) network coordination. These two forms of coordination operate without competition. For the bartering concept, it is unclear how widespread it is and under

continue reading on page 110 ⏭

THIS IS AN ARTICLE BY **UTA MEIER-HAHN**

This article was published on 7 July 2016 on the HIIG Blog. Uta Meier-Hahn is a doctoral researcher focusing on infrastructure and interconnection arrangements between internet providers. At the Humboldt Institute for Internet and Society she is part of the research department Internet Policy and Governance and also works for the *Internet Policy Review*.

INTERNET POLICY AND GOVERNANCE

The Internet Policy and Governance department investigates prominent and contested fields of internet regulation such as copyright, freedom of expression and the internet infrastructure. The research team is interested in the norms, structures and practices that contribute to the ordering of digitally networked environments. This governance perspective connects mundane acts of coordination with formal, codified means of regulation. For instance, we ask how creative goods are produced and monetised in contexts of weak or uncertain copyright provisions? How do privately owned social networks or platforms balance the rights of their users with their profit interests? How do algorithms govern the flows of information in digital environments?

what circumstances network operators opt for it. In contrast, network coordination can be observed frequently. It is based on reciprocity. Network operators mutually relate to one another and cooperate. They have to do this to make the interconnection technically possible. As the example of the jungle shows, cooperation does not do away with hierarchical constellations and struggles for power (cf. Mützel 2008 p. 191 f.). The last category, namely that a market at the core of the internet is unacceptable, certainly has a political character. A person who identifies him or herself as a market participant only outside of the context of interconnection denies the legitimacy of those who want to develop markets around peering arrangements. So-called peering wars are therefore disputes over whether economic relations between network operators should be based on reciprocity or on the market principle.

Even more than 20 years after the commercialisation of the internet, the application of the market principle at the core of the internet is still contested. The internet's architecture makes the object of exchange seem constructed, which induces uncertainty. Nevertheless, network operators obviously do trade with each other. But if one asks on what the stability at the core of the internet is based, you have to look further than the market and its object. Because the participants have not yet agreed on a title for the film. ◆

FOOTNOTES

1 A spreadsheet listing the largest European internet exchange points, including the prices that network operators must pay for 10 and 100 Gigabit Ethernet connections: http://goo.gl/4D4Ur3

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SIMON RINAS

Digital sovereignty – Europe's path between protectionism and competitiveness

A spectre is haunting Europe – the spectre of digital sovereignty. As a result of the 2013 revelation of massive U.S.-driven data surveillance, both European policy-makers and stakeholders from EU member states have urged action to strengthen data security and data protection with a view to improving European or even national self-determination as it refers to the digital sphere. As this process has been ongoing, the word digital sovereignty has spread in both the political and economic spheres, and has occasionally achieved some prominence. Several governments and companies have not hesitated to call for a re-nationalisation of the digital.

In 2014, a paper published by the Global Public Policy Institute (GPPi) together with the Open Technology Institute and the New America Foundation – remarkably funded "with the assistance of the European Union" – assessed a significant number of measures aiming at safeguarding Europe's digital sovereignty. Asking whether Europe is missing the point when striving for "technological sovereignty", the authors eventually concluded that the proposals, ranging from localised routing to IT security brands, mostly would not meet their aims and even would threaten the open internet. The situation back then was prompted by massive pressure on EU officials caused by public disillusion and outrage. Realising the fact that Europeans were obviously exposed to the digital supremacy of foreign powers forced European decision-makers into a corner where they had to affirm Europe's capacity to act in a self-determined way; Europe was in a state where technology faced a political rationale. And even after the dust settled, the term digital sovereignty still stimulated the discourse. But it had changed. The discourse has shown that there is more to digital sovereignty than localised routing, national e-mailing or restrictions for public tenders. The term has evolved and broadened its scope.

SOVEREIGNTY = PROTECTIONISM?

Reviewing past developments, globalisation, Europeanisation and digitalisation have blurred the lines between states as well as national and supranational institutions. In the process, they have changed the way we think about physical borders. Europeanisation has called the term sovereignty into question, while nation states have questioned the process of Europeanisation. Digitalisation in these matters is the embodiment of blurring lines per se: on- and off-line merge, the internet is objectified, industry and society are translated into bits.

Digitalisation certainly increases the pressure on European economies whose incumbents are world leaders in traditional, analogue industries: automotive, manufacturing, engineering, pharmacy. The challenge to keep up with global competition accelerates as market entrants from the IT sector set trends by

establishing new digital business models that demand digital transformation. Data processing, as a skill to develop new business models and societal solutions, has to be integrated in our thinking. Therefore, Europe's economy and society has to be aware of the characteristics of this new resource. However, the fear that results from this development – reaching beyond the fear from being a victim of surveillance – has given birth to a phrase that is likewise haunting European debates: Europe must not become a workbench for U.S. or Asian innovators. But, digital protectionism cannot be an answer to these fears either. Rejecting the challenge of moving to the new would waste the potential digital sovereignty is able to unleash. Protecting the status quo while thereby promoting outdated business models instead of promoting innovation will do little to foster sustainable economic growth in Europe. What should a legitimate concept of digital sovereignty look like then?

MAKING EUROPE DIGITALLY COMPETITIVE

It is clear that regulation is a crucial point when thinking about sovereignty in the digital world. Almost 30 years ago, liberalisation in the telecommunications sector started to get rid of borders, exclusive rights, monopolies and protectionism with the aim of promoting the competitiveness of European companies. Why take a step backwards instead of recalling the values that once targeted welfare and growth through embracing competitiveness? The goal to establish a European IT hub and to transform traditional industries into digital champions lags behind reality. At the same time, Europe already is a hub for innovative *information and communications technology* (ICT) as the Global Information Technology Report 2015 emphasises: Finland (2nd), Sweden (3rd), the Netherlands (4th) and the UK (8th) lead the field in ICT readiness. Combining these facts with Europe's capacity to harmonise a market of 500 million users is one of the biggest advances in this field when it comes to promoting economies of scale. The *General Data Protection Regulation*, the *Directive on Security of Network and Information Systems* and the *Digital Single Market Strategy* as such are already moving in this direction.

In order to gain digital sovereignty, it is important to make Europe competitive in a global digital market and not to make the digital market European. Europe cannot create a second Silicon Valley or a European Google; but it can seize the opportunity of a diverse ecosystem, within which new undertakings can grow and established industries can open up to the existing European and even global ICT environment. Therefore, a harmonised digital single market that promotes innovation and fosters legal certainty for all participants is just a first step in encouraging this environment to become a digitally sovereign – that is, a confident and competitive – digital economy in Europe. Europe's economy has nothing to lose but its chance to shape digitalisation. ◆

THIS IS AN ARTICLE BY **SIMON RINAS**

This article was first published on 5 February 2016 on the HIIG Blog. Simon Rinas is a doctoral researcher at the University of Duisburg-Essen and associate doctoral researcher at the HIIG. As part of the Internet Policy and Governance department he analyses internet accessibility in the European Union.

ASSOCIATE RESEARCHERS AT HIIG

The Humboldt Institute for Internet and Society maintains close research links with numerous academics whose research interests and topics connect to the field of interest of the HIIG. Working at institutes from all around the world, our associate researchers provide input from diverse backgrounds and help us to cover topics and knowledge beyond the HIIG's agenda.

"What is fascinating and disappointing at the same time is the very low level of relevance that the political sector still assigns to the internet governance process."

FROM ALLENDORF TO THE DIGITAL FRONTIER

Digitalisation, and the way it is changing the way we interact, consume and live in, is a hot topic in both politics and economics. The HIIG research project Gemeinsam Digital, initiated by the Federal Ministry for Economics and Energy, focuses on the opportunities and challenges that established German companies face in an increasingly connected digital world. The good news is that according to IHK Unternehmensbarometer 2016 80% of German businesses have realised the potential of digitalisation and taken the first steps towards a digital transformation. 41% have already seen an increase in profit due to digitalisation and 68% of managers state that they are focusing on the opportunities that are arising rather than threats from new competitors or technologies. Still, many companies lack a comprehensive digitalisation strategy. The biggest challenges remain a lack of digital skills in the workforce (85%), legal and regulatory challenges (84%), investment under high uncertainty (83%) and security and data protection issues (72%). One person with emphatic views on the opportunities and challenges presented by digitalisation and digital transformation is Max Viessmann, chief digital officer at the Viessmann Group. The Viessmann Group is a classic example of an established German company. Founded in 1917, the company is still family-owned. It is one of the leading manufacturers of heating, industrial and refrigeration systems, has subsidiaries and offices in 74 countries worldwide, employs more than 10 000 people and has an annual turnover of 2.2 billion euros. Innovation, entrepreneurship and agility are deeply embedded in the company's values. Viessmann has thus been able to successfully address both the opportunities and challenges that arise in our digital world.

Jessica Schmeiss: Digitalisation means many things to different people. What does it mean to you at Viessmann?

Max Viessmann: Digitalisation is the broad and agnostic use of technologies to recognise opportunities and act on them. Essentially, digitalisation has two main characteristics for us. First, it is all about scale. We use digital technologies in all our externally facing channels to scale our business and provide our stakeholders (e.g. customers and partners) with the best possible solutions. Second, it is about efficiency. Internally, digital technologies help us to (re-)allocate resources quickly and seamlessly, and thus optimise our operations across all areas of the business.

Additionally, digitalisation has reshaped the way we work as an organisation. By realising the vast growth opportunities digitalisation offers, we have become much more transparent and agile in meeting those opportunities. Our aspirations for digital transformation and scalable growth have become part of our culture.

This is a very strategic view of digitalisation. Where does this understanding come from? Where do you get your inspiration for digitalisation?

Indeed, there is a vast amount of superficial information available on digitalisation. The biggest challenge for managers today is to identify the relevant channels and pieces of information for every given situation. For me personally, a two-fold strategy has proven successful. On the one hand, I stay up-to-date by reading leading online media and publications (such as TechCrunch), and on the other hand, I maintain a close personal network of fellow managers and experts in the field. It's the authentic and outcome-oriented dialogue with relevant people both inside and outside the company and even industry that adds most value to our digitalisation strategy.

Viessmann employs more than 10 000 people worldwide. How do you make sure that everyone in the organisation benefits from those insights into digital trends?

Of course, digital understanding and skills vary within such a big organisation. Individual conversations with key stakeholders within the organisation are important to establish a deep understanding of our digital strategy. More importantly, though, we rely on frequent and scalable communication to spread information within the organisation. For example, we have developed an internal app that allows us to frequently share information with our employees through a digital channel. Additionally, we use innovative tools like Slack to share information and communicate in real time. These measures have been essential to ensure the necessary understanding and support for a digital transformation.

One of the key aspects of digitalisation is that the customer moves to the centre of all business considerations. How has digitalisation helped you to understand your customers better?

The basic elements of digitalisation such as a well-functioning customer relationship management system have been an important tool to expand how we understand our consumers from single interactions to a connected picture across touchpoints and lifecycle stages. Additionally, digitalisation has influenced our product development processes. When we started to develop digital products, we were forced to understand in much more

detail how customers use our products and what their needs are. We thus integrated much more user research, for example, on user interface design, into our product development process.

It sounds like the digital transformation at Viessmann is well on its way. What are the biggest challenges you have encountered along the way?

The biggest challenge with digitalisation is to define the relevant topics and set priorities. For B2B companies, the opportunities that arise from digitalisation are endless – from using 3D-printing in production to fully digitising sales and service processes. Identifying which opportunities have the biggest potential and will have the biggest impact in terms of sustainable growth is a challenging task for any manager today. It is a continuous process of evaluating and iterating, of making sure that you are working on the right things and adjusting if necessary. At the same time, this iterative process needs to be translated into a clear and solid vision and business strategy that can be communicated to all stakeholders.

Startups usually have a much more digital culture and strategy. Do you cooperate with startups when it comes to digital transformation?

Yes we do. In fact, there are three main reasons why we cooperate with startups. First, we are looking for startups that complement our technological solutions or help us expand our ecosystem. Second, we are looking for strong partners, for whom we can function as potential customers, and third, we are looking for promising investment opportunities. Additionally, the relentless customer focus of any startups we have worked with has been a big driver for us to rethink how we interact with our customers.

Looking beyond the Viessmann Group, where do you think the German economy stands in terms of digitalisation?

This is a tricky questions with many answers. First, there are still infrastructure challenges, in particular in rural areas in Germany, where companies have to invest significant amounts of money to build the necessary technological infrastructure for digital change. Second, many German companies are still not focused enough on the potential that lies in digitalisation. A good example of this is the fast developments around the Internet of Things. This should be a high priority topic in Germany, given that we have some of the world's leading industrial companies. In reality, though, many of those companies struggle to integrate digital change into their existing industry segments and thus open a significant window of opportunity for competitors from other industries. I am not saying that our future is completely pessimistic but we definitely need to, first, focus more on opportunities rather than challenges, and second, develop a better understanding of how to action those opportunities. ◆

ROBIN TECH

Robots! Be like Buddha! Why we think WALL·E and BB8 are cute and fortune teller robots are creepy

Have you ever noticed that some robots look incredibly cute while others just look creepy? Imagine, for example, WALL·E of the same-titled movie: he has eyes that look like binoculars, no face, box-shaped body, and clamps for hands. While this might at first sound scary, the robot is a loveable character and generates almost instant empathy. And now imagine one of these fortune teller robots that sit behind a pane and from a distance almost look like a real person. But the closer you get, the more you feel some sort of stranger anxiety. Something feels off – this almost life-like robot creates not empathy but distress and an eerie and weird feeling. Why? It's a phenomenon called the uncanny valley effect. Even though WALL·E is much more unfamiliar to us and we've probably never seen anything like it, we still connect and relate better to an un-human robot than to an almost human-like robot. In fact, we're repelled by machines that almost look and behave like humans but that exhibit subtle cues that indicate they're not human.

Let's take a closer look at the uncanny valley. Coined by Japanese designer and roboticist Masahiro Mori in his 1970 article, "Bukimi no Tani Gensho", Mori referred to Freud's concept of uncanniness (Unheimlichkeit). In essence, it describes a growing feeling of unease when animated objects become more similar to real ones. Interestingly, before the graph dips, familiarity and empathy steadily increase along with human resemblance. The comfort level then drops rapidly when a specific point of human-likeness is reached, subsequently hitting a maximum of perceived uncanniness, and then steeply rising again soon afterwards. Mori, and the researchers that have followed his path have proposed multiple explanations for the uncanny valley. Some argue that humans have developed an elaborate set of skills to spot defects in potential mates. Robots that are stuck in the uncanny valley often move in a slightly weird way, respond with a noticeable lag, or have an unnatural skin colour. This creates the impression that something is wrong with this humanoid and that it's either caused by disease or, you know, death. Most humans are strongly and deeply repelled by both. Another possible explanation for the eeriness we sometimes feel when encountering robots is that we expect too much. When an almost perfectly human-looking robot is presented to us, we expect all its observable features to measure up to human features. If, however, something is missing – eyebrows and fingernails, for example – eeriness ensues. This notion is closely connected to an aversion to cognitive dissonance. Our minds are desperate to assign a robot that has been created to imitate human appearance to a mental category: human or robot. The more we struggle to choose the right category for the robot, the more uneasy we feel about it (Burleigh et al., 2013; Mathur & Reichling, 2016).

For designers and their robots the question is, of course: How do you get out of the valley? For one, robots can prominently feature decision supports for humans – such as clearly robotic elements that move the machine more towards human appearance and out of the valley. Coherence also leads to a positive

appraisal of the robot. Mixing humanoid and robotic features, however, or featuring different levels of human-likeness confuse us. Machines that look like humans but move like a machine will likely end up in the uncanny valley (Walters, 2008). There is another strategy that might seem odd at first, but that has proven to be quite effective: robots that take up elements and features of things that comfort us humans can move out of the valley. Levels of familiarity, empathy and affection can even match the levels we feel for other healthy human beings. While Mori's 1970s article stated that "[o]f course, human beings themselves lie at the final goal of robotics, which is why we make an effort to build humanlike robots" he changed his mind a decade later: In 1981, Mori described the Buddha's appearance – detached from worldly concerns, calm and in a quiescent state – as utterly comforting to humans. Features of this kind might in future result in robots that evoke such deep affection in us that it even surpasses the level of familiarity we feel for fellow humans. ◆

tl;dr: Robots that do not perfectly resemble humans, but try to, are creepy. They should either stop trying so hard and embrace their robot features or specifically include comforting, Buddha-like features.

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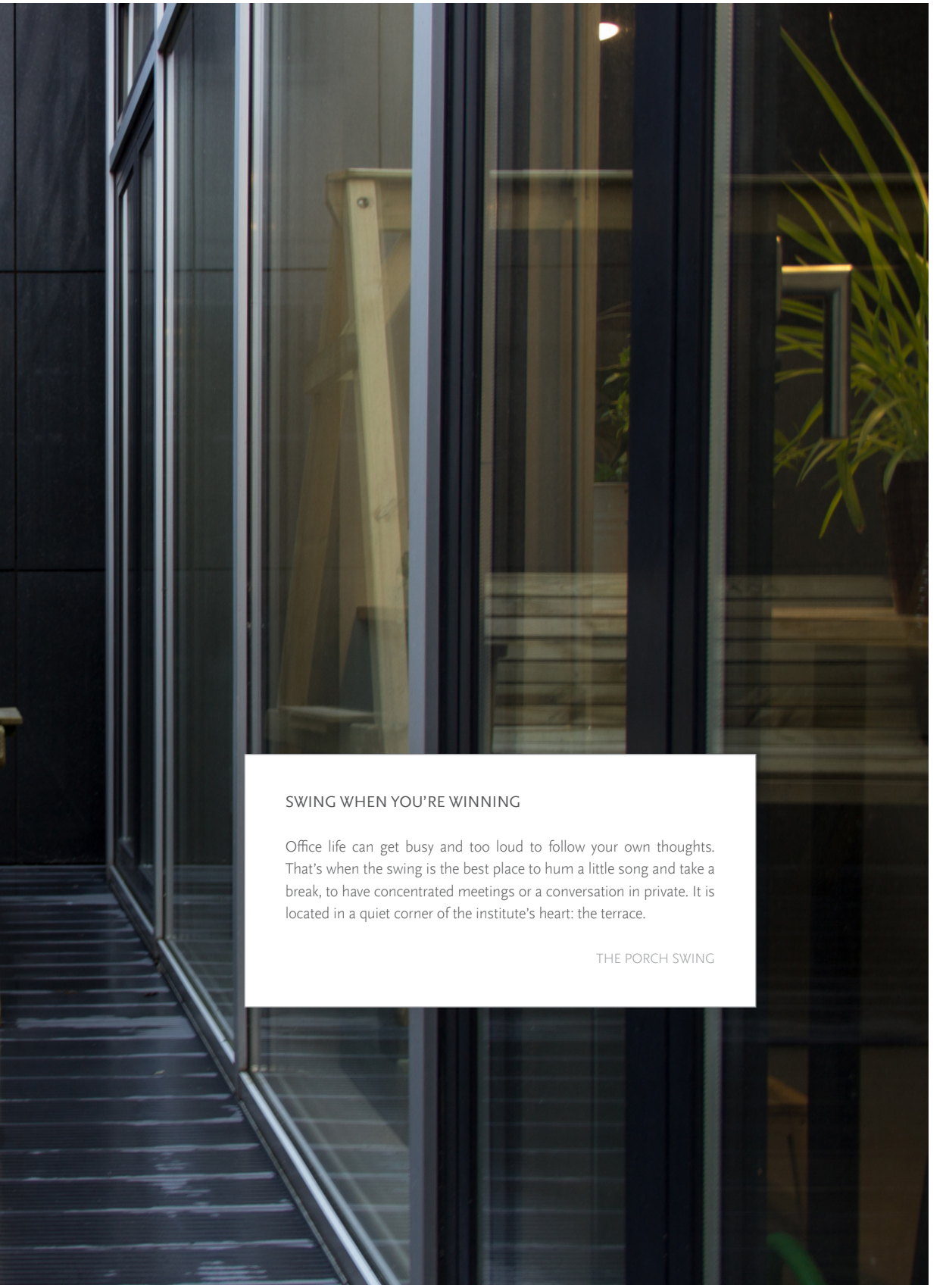
THIS IS AN ARTICLE BY **ROBIN P. G. TECH**

This article was published on 1 April 2016 on the HIIG Blog. Robin P. G. Tech is a doctoral researcher at the HIIG, focusing on the entrepreneurial exploitation of the internet of things. His doctoral thesis focuses on high-tech startups and how their complexities affect financing constraints.

INTERNET-ENABLED INNOVATION

Far from being yet another innovation, the internet is a novel way of solving problems while supporting creativity and communication. The internet fosters new forms of corporate, cultural, artistic, creative and knowledge-based goods, as well as the interaction between consumers, entrepreneurs, companies and the general public. The behaviour of individuals, corporations and institutions in terms of how they cooperate online is currently changing. This not only means new forms of employment and new job opportunities but also new technologies and new business models.



SWING WHEN YOU'RE WINNING

Office life can get busy and too loud to follow your own thoughts. That's when the swing is the best place to hum a little song and take a break, to have concentrated meetings or a conversation in private. It is located in a quiet corner of the institute's heart: the terrace.

THE PORCH SWING

GLOBAL NETWORK OF **INTERNET AND SOCIETY** RESEARCH CENTERS

A GROWING NETWORK

The global Network of Internet and Society Centers, launched in December 2012, unites research institutes across the globe to promote cooperation in the field of internet and society research. Following a successful period in which the Turin-based Nexa Center for Internet and Society acted as coordinator as second in a row after HIIG, the administrative lead was handed over to the Institute for Technology & Society of Rio de Janeiro (ITS Rio) in October 2016, which will head the network for the upcoming two years.

Among its activities in 2016, the network established a series of hangouts that dealt with multi-stakeholder research, the Italian proposal for an internet bill of rights, and the Digital Asia Hub. Furthermore, in the course of restructuring, an executive committee was inaugurated in October 2016 and took over the administrative lead from the steering committee.

The network's mission will be to continue its collaborative work in infrastructure and community building, which is especially important given its fast growth over the last few years. It will also continue to look for ways to express its rich global and regional potential. A world wide web of centers has been successfully established and a first exciting results have been produced: it is now time to further bring the centres together to study the internet from the many vantage points – geographical, disciplinary, cultural – represented in the network.

CENTRES WITHIN THE NETWORK 2016

THE NETWORK CONSISTS OF 8 STEERING COMMITTEE PARTICIPANTS ● AS WELL AS IN TOTAL 68 PARTICIPATING CENTRES AND AFFILIATED PARTICIPANTS ●

“I didn‘t SAY you shouldn’t.”

JULIAN STABEN

Arguing with chilling effects – does a poor empirical foundation allow for sound constitutional standards?

When it comes to finding the facts that they need to decide a case in front of them, courts are well-equipped. Whether it is interviewing witnesses or evaluating documents, courts have developed and refined several means of taking evidence. Yet, when it comes to more general social facts, there are no fitting instruments in the judicial toolbox.

Chilling effects are deterrent side effects of laws or governmental and judicial decisions. They can be compared to the side effects of a medical treatment. For instance, when courts and parliaments regulate speech, it often has consequences on a supra-individual or even societal scale. How can courts account for these effects? More importantly, how are these facts gathered?

Social scientists are often bewildered when they discover the answer: judges negotiate with each other based on their personal assumptions about the world to reach a common factual basis for their ruling. Obviously, they can fall prey to arbitrariness and subjective bias in this process. This is the very reason why social science invented a methodology to describe the world.

Julian Staben's thesis suggests testing any broader or societal judicial facts against a scale that moves from a mere plausibility threshold to sound theoretical and empirically reproducible evidence. There are four context-dependent criteria that should determine the requirements in a specific case: the general limits of measurability of the facts, the court's resources at hand, the allocation of constitutional competencies for raising the facts between several bodies of state (parliament and courts) and the significance of the facts for the actual outcome of a decision. All in all, a court regularly needs to be at the top end of the aforementioned scale in order to base constitutional standards and tests upon presumed chilling effects.

Overall, the thesis examines how the Bundesverfassungsgericht (German Federal Constitutional Court) uses chilling effects as arguments and compares this with the jurisprudence of the US Supreme Court. Chilling effects follow distinct patterns when it comes to online behaviour and emerging digital practices, which calls for their constitutional reassessment. The work aims to enable a methodologically reflective use of these arguments in the judicial discourse. ◆

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The dissertation was published under the German title *Der Abschreckungseffekt auf die Grundrechtsausübung – Strukturen eines verfassungsrechtlichen Arguments* with Mohr Siebeck in October 2016.

www.hiig.de/diss/JAS

Frische Quarkkeulchen
Frische Quarkkeulchen
3 Stück 1,20 €
5 Stück 1,80 €
10 Stück 3,50 €
20 Stück 6,00 €
Softeis
Frische Quarkkeulchen
3 Stück 1,20 €
5 Stück 1,80 €
10 Stück 3,50 €
20 Stück 6,00 €
mmeyer

Busy day.

MARTIN WROBEL

When nothing is certain, what competences does an entrepreneur need to succeed?

Internet-enabled startups operate in a constantly changing environment that is characterised by great uncertainty. The failure rate is extremely high and only a few of them become successful companies in the long run. The scholarly discourse has identified two key factors for the successful development of a young company. The first is the skills and competencies of its founders. Several studies of technology-focused startups confirm that deficiencies in this area are one of the main reasons for failure. The second important factor relates to sales and marketing. Several studies (e.g. German Startup Monitor or European Startup Monitor) have shown that acquiring new customers is by far the biggest challenge for internet-enabled startups across all stages of growth. It is hence not unreasonable to posit that poor competencies and poor sales and marketing tactics will inevitably lead to a persistent lack of success or to total failure.

These are the issues Martin Wrobel's dissertation addressed. He asked the following questions: what competencies in sales and marketing does a person

need to build and grow an internet-enabled startup and reach profitability? How should these competencies be combined and expressed? The study's empirical results are based on several group discussions and expert interviews. Eight competencies are considered most essential, in particular credibility, willingness to learn, perseverance, resilience, results orientation, communication skills, customer orientation and analytical capacity. Furthermore, there is another group of eleven different competencies that are also considered very important. Personal competencies as well as activity- and action-oriented competencies are most crucial, whereas professional competencies only play a minor role in the early stages of internet-enabled startups.

Overall the message for potential and current entrepreneurs is to ask themselves whether they have the competencies it takes to succeed. ◆

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The dissertation was published in German with the title *Ermittlung eines personenspezifischen Kompetenzprofils für Internet-enabled Startups in den Bereichen Marketing und Vertrieb* in September 2016.

www.hiig.de/diss/MW

Internet rules.

CHRISTIAN KATZENBACH

Does technology regulate and how does discourse frame internet development and usage?

Typically, we think of internet policy and governance as a process taking place within designated political institutions: parliaments, regulators, and specific international and transnational bodies such as IGF or ICANN. But increasingly, it is becoming obvious that digital rulemaking and ordering is also happening elsewhere. Rulemaking and ordering takes place when dominant platforms set their terms of service and community guidelines, and when the public engages in discourses about issues such as fake news, hate speech, freedom of expression and copyright; it inheres within the algorithms, services, and infrastructures that constitute the internet, the technology itself. Starting from these considerations, Christian Katzenbach's thesis develops a concept of governance that accommodates these heterogeneous processes of ordering. It specifically addresses the role of media technology in shaping and reflecting the way we communicate. Conceptually the thesis draws on governance research, institutional theories and science and technology studies. This integration allows it to show that governance as the process of negotiating rules and mutual

expectations is not restricted to law and policy-making. Rather, it also consists of normative orientations, discursive framings and media technologies.

As a result, the thesis suggests four perspectives for governance research: A regulatory perspective, addressing the provision and enforcement of formal rules such as laws, court decisions and terms of service; a normative perspective, investigating the prevalent judgements on legitimate and illegitimate behaviour in a specific community or sector; a discursive perspective, addressing the framings and debates on contested issues of communication policy and law; and a technological perspective, investigating the embodiment of affordances and rules in infrastructures and algorithms shaping daily routines of communication. This concept of governance makes it possible to develop an inclusive picture of internet policy and governance. On the practical level, understanding informal processes of ordering is essential for deploying effective regulation. On the theoretical level, the thesis contributes significantly to the understanding of governance as a social and technological process. ◆

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RESEARCH REPORT 2016

RESEARCH REPORT 2016

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Communication

Appendix: Monitoring of the institute's activities M.170

The Alexander von Humboldt Institute for Internet and Society (HIIG) explores the dynamic relationship between the internet and society, including the increasing interpenetration of digital infrastructures and various domains of everyday life. Its goal is to understand the interplay of social-cultural, legal, economic and technical norms in the process of digitalisation.

Drawing on basic and applied research, HIIG contributes novel ideas and insights to the public debate on the challenges and opportunities of digitalisation. It serves as a forum for researchers on internet and society and encourages the collaborative development of projects, applications and research networks on the national and international level. The institute uses a variety of formats to share its research with the public, including the political sphere, business and civil society.

In addition to conducting problem-oriented research on the challenges of the digital society and publishing research results, the HIIG team has pursued the following objectives in 2016:

- Strengthening HIIG's research strategy and profile
- Supporting the doctoral programme and especially the completion of the first doctoral dissertations
- Stabilising the NoC and international relationships/fellowship structures

Advancing research transfer through topic-oriented events and communication, especially as host of the annual conference of the Association of Internet Researchers (AoIR, October 2016). As in previous years, it has been important to secure long-term funding for the institute and succeed in evaluated third-party funding applications.

RESEARCH PROGRAMMES AND DEPARTMENTS

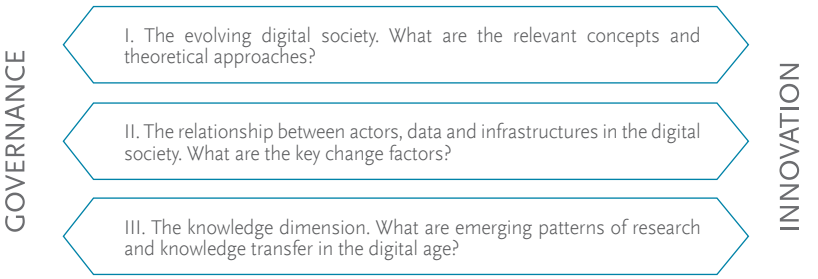
To strengthen HIIG's research strategy and profile, we analysed the existing projects according to their research focus and key questions that drive the research teams. Based on this assessment, the HIIG team found common ground within every topic and project irrespective of the disciplinary background of the research team or objective: our conceptual frame of reference for identifying and assessing societal changes throughout the process of digitalisation is the relationship between innovation and governance. There are a number of reasons why this relationship is a compelling research focus. Innovation and governance interact in ambiguous ways; they may both mutually stimulate and even enable each other, but they may also be constraining. Tensions and synergies emerging from this relationship can be found across all societal fields and organisations, including the state, corporations and markets, from the local to the global level. While the relationship between innovation and governance is empirically gaining in relevance, analytically it is still under-researched. This focus also promises to integrate the research interests and expertise of all groups at HIIG.

Guided by this perspective, we structure our research agenda by research programmes. Research programmes are expected to stretch over a defined period of time and be driven by the broad research questions overarching the institute's departments. Projects will contribute in various ways to addressing the research questions.

Read on if you want to find out about our overarching research programmes and research departments: Internet and Media Regulation, Internet Policy and Governance, Internet-enabled Innovation, and Global Constitutionalism and the Internet.

RESEARCH PROGRAMMES

Since 2014, the HIIG team has been working to advance its research agenda and raise its academic profile. The following graphic shows an outline of the structure that guides the institute's research development:



I. The evolving digital society. What are the relevant concepts and theoretical approaches?

Today, many observers link the process of digitalisation to major transformations in society and economy. It has become conventional wisdom that digital technologies can be disruptive and that, as a result, modern societies are undergoing a period of permanent structural change. From an academic point of view, this raises the question of the consequences of the digital upheaval for the development of contemporary theory: Does the digital transformation also call into question our conceptual apparatus for investigating society, the economy, the state? Are there relevant new phenomena that cannot be adequately understood on the basis of existing theoretical assumptions? Are there new theoretical approaches that can identify the constitutional elements of the changes we observe? While it may be too early to answer these questions, we are called upon to at least look at them. The programme will focus on critical moments and structural shifts as general reference points.

In 2016, we saw that the debate on digitalisation is vibrant in all kinds of domains: the role of platforms in campaigns and public discourse, the widespread deployment of artificial intelligence across sectors, the roll-out of networked devices and sensors and their adoption in industry and public administration. But scholars are only now beginning to develop theories that can capture the current transformation. In the last months, we have put effort into reviewing literature that offers conceptual and theoretical approaches to the evolving digital society. In addition, we conducted an internal survey and asked the whole HIIG research team to tell us what pieces on digitalisation they found particularly eye-opening. This will help us in developing a shared conceptual perspective on digitalisation processes and transformations in contemporary societies. For 2017, we plan to start a high-profile lecture series on *Making Sense of the Digital Society* (working title) featuring key European thinkers.

II. The relationship between actors, data and infrastructures in the digital society. What are the key change factors?

Information technologies are based upon data and give data a key role in the digital society. Yet our understanding of the increasing relevance of data is far from complete. Better access to data, information, education and knowledge, transparency and networks empower the individual and bring about opportunities for our model of democracy; they may profoundly change governance along with relationships in the public and private sector. On the one hand, big-data-based analytics, predictive policies, and IoT applications allow for more efficient business and public administration; on the other hand, new modes of surveillance challenge established relations in labour-, health-, insurance-, security systems and markets, and threaten individual freedoms and trust. The internet of things will multiply the amount of data. With increasingly innovative analytics and uses of data, it will become more and more valuable in the digital society. Thus, we need to rethink our patterns of data ownership and flows, our data infrastructures and security as well as our approaches to the protection of personal data and privacy, personal freedom and political participation in a globalised society. This will lead to more in-depth research on particular aspects of change that have become apparent from three angles: actors, relationships and governance.

In 2016, researchers from HIIG participated in academic conferences and organised various events. For example, Max von Grafenstein gave an insight into the *Interplay of Data Protection Principles and Data-driven Innovation* at the European Digital Governance (EuroDIG) conference in Brussels. Together with the Vodafone Institute for Society and Communications, HIIG published a special issue on *Big Data: Big Power Shifts* in its *Internet Policy Review*, an open source academic online journal, and organised a related special keynote dialogue with several internationally renowned speakers, such as Siim Sikkut, the Digital Policy Adviser at the Government Office of Estonia. HIIG also organised several roundtables and workshops, for example, on *Data Sovereignty in Europe*, and *Privacy, Data Protection and Surveillance*. Last but not least, we also tested a new format: the legal hackathon *Building Standards for Privacy- and Security-by-Design in the IoT*, in which five groups of privacy and security experts from all over the world and different disciplines elaborated on privacy and security-by-design solutions for a public WiFi system in a smart city environment.

III. The knowledge dimension. What are emerging patterns of research and knowledge transfer in the digital age?

This research programme looks at central questions at the intersection of technology, research and knowledge dissemination. New technologies are creating new premises for how knowledge is generated and disseminated. The internet can be understood as the essential infrastructure for a type of society, the key resource of which is knowledge. Thus, generating, processing and storing knowledge is becoming a key factor for the private and the public sector alike. This programme will focus on organisational learning, since this can only be understood by combining innovation research and the analysis of governance structures.

We published a study on the digitalisation of learning together with the *Federation of German Industries* (BDI) and the *Internet Economy Foundation* (IE.F.) Furthermore, we succeeded in publishing articles in several high-impact outlets, including *Science* and *Public Understanding of Science*, especially on the topic of data sharing, open access and citizen science. Benedikt Fecher finished his dissertation on data sharing in academic research, in which he empirically investigated how researchers handle their data and what motivates them to make data publically available. Hannfried Leisterer finished his dissertation, which shows that European and German cyber security policies basically rely on knowledge, including diverse methods of information gathering, transfer and distribution regarding technology, incidents and resilience. For 2017, we plan to widen our scope and launch projects on knowledge governance in academic, political and economic organisations. We have already applied for funding for a project on innovation in higher education.

RESEARCH DEPARTMENTS

We are striving to progressively implement the key issues defined in the research programmes through cooperative interdisciplinary work within the four research departments of the institute:

Internet and Media Regulation

Research in the Internet and Media Regulation department derives from questions revolving around the normative structure of the internet. A common feature of all our projects is their interdisciplinarity – though grounded in a distinct legal context, our work is never narrow in its focus. We regularly incorporate influences from other disciplines to complement the strong legal and academic background, making for very versatile and dynamic research. This allows us to fill research gaps that have, to date, mostly been unaddressed. We are able to rely on numerous connections to further our disciplinary and interdisciplinary work – be it in the practical field or in the international context – such as our cooperations, collaborations and joint presentations with different institutions, encompassing the conglomerate of centres that ultimately developed into the Network of Centers (NoC).

Some of the most notable research results of 2016 include the work of Wolfgang Schulz, Markus Oermann and Tobias Mast regarding communicative figurations in internet governance. The goal was to get greater insight not only into governance structures, but also the process of development and changes in normative factors, by observing intra- and inter-organisational procedures in a holistic way. The authors do so by further developing the factor model used in internet governance by combining it with Norbert Elias's figuration approach. They take the Advisory Council on the Deletion of Undesirable Search Results as an example and analyse it. The results are condensed into the paper *Doing Governance in Figurations: Proposal of an Analytical Framework* which was presented on several occasions, such as ECREA conference in Prag, the IGF's yearly conference in Guadalajara and 4S/EASST Conference in Barcelona.

In collaboration with NYU's Joris van Hoboken, Wolfgang Schulz also scrutinises the influence and development of encryption techniques in a report for the UNESCO titled *Human Rights Aspects of Encryption*. The authors do so by assessing different encryption techniques as well as their use and their importance for the media landscape, especially in journalism. The legal framework for using encryption techniques in several countries, like the US, Germany and India is then analysed. Summarising the relation between encryption and the realisation of human rights, the report gives insight into the current situation worldwide. It's result were presented at the UNESCO encryption panel at the IGF's 2016 conference in Guadalajara.

Governance by things (Vol. 5 *Internet Policy Review*) is the latest publication by Wolfgang Schulz and Kevin Dankert on how the rise of the internet of things will challenge regulatory structures. Coming from the idea of code as law, the shift from technology governing online spaces to physical spaces is described as a new phenomenon. Some key observations of this structural shift are characterised in this article, regarding its self-executing character and the imperfection of technology. Finally, the authors draw the conclusion that *Governance by Things* calls for a second-order regulation.

Starting in 2017 a new kind of interactive survey that draws on the Network of Centers' wisdom will be launched. While the groundwork and foundations were laid in 2016, the survey will be conducted yearly. Its goal is to map research topics and trends by asking the NoC's members about their work and their perception of important and emerging issues. Hopefully, it will be able to answer questions regarding the definition of research topics, the reasons for new research trends, the meaning of certain concepts and ideas and overall the construction of the research community. As the survey will be conducted on a yearly basis, the data set will be ever-growing, enabling researchers to draw on it for years to come.

Finally, in October, in collaboration with the Hans-Bredow-Institut and Hong Kong University and kindly funded by the German Academic Exchange Service, a group of six researchers was able to organise and attend a big data conference in Hong Kong. HIIG researchers presented their recent work regarding big data issues and established a dialogue with Asian researchers from China, Hong Kong, Singapore and other countries. The conference was hosted by the HKU law faculty and

provided valuable insight into the big emerging markets. The conference was already the second collaboration between the HKU and the HIIG and is about to be continued next year.

Internet Policy and Governance

The Internet Policy and Governance research department investigates contested fields of internet regulation such as copyright, freedom of expression and internet infrastructure from a governance perspective. Our approach connects political and legal concepts of regulation on the one hand and sociological notions of coordination on the other. We are particularly interested in how social-cultural, technical, and legal norms contribute to ordering digitally networked environments. We published a detailed outline of our approach in the Journal *New Media & Society*. In cooperation with Dmitry Epstein (University of Chicago) and Francesca Musiani (CNRS, Sorbonne), we further advanced the conceptual discourse around internet policy and governance by organising a pre-conference at AoIR 2016 with 80 participants, and by publishing a special issue in the *Internet Policy Review* on *Doing Internet Governance*, which contained ten articles by leading and emerging scholars of the research field.

In our lead project **Empirical Copyright Research**, we wrapped up the case study on imitation and innovation in the games sector. Christian Katzenbach, Lies van Roessel and Sarah Herweg published the discourse analyses of contested cases of plagiarism in early 2016 in the *International Journal of Communication*. Two further papers, focusing on processes of innovation in the games sector and on governance of innovation respectively, are nearly ready for submission to journals. At the 6th European Communication Congress, we presented our theoretical framework for studying the governance of cultural goods, with games development as a case study. We intend to continue this line of research through comparative investigations across territories and sectors with partners in the Netherlands (IViR), Scotland (CREATe) and Israel (University of Haifa).

A second research area concerns the **infrastructures of the digital society**. The central questions are how these technical infrastructures are governed and how they are integrated within social relations. In line with this interest, we started to study the certificate ecosystem, which evolved on the basis of the TLS (Transport Layer Security) protocol. While this protocol is one of the important pillars of secure everyday internet usage, discussions on it mostly relate to technical aspects of security. In 2016, the doctoral candidate Uta Meier-Hahn completed the empirical analysis on the social dimension of internet interconnection. Her report, published on SSRN, about the effect of regulatory conditions on internet interconnection was downloaded more than 500 times within the first six months. Uta also participated in an expert workshop on IP interconnection and net neutrality convened by the Body of European Regulators for Electronic Communications (BEREC) and the OECD. Further, the Regional Internet Registry for Europe, the Middle East and parts of Central Asia (RIPE NCC) will support the finalisation of Uta Meier-Hahn's dissertation in 2017 with a substantial financial grant.

The public debate on hate speech, user harassment and extremist content on social network sites intensified in 2016. In the project **Freedom of Expression in the Quasi-public Sphere**, Kirsten Gollatz investigated the social media companies' policies and means to govern speech on their platforms. After having completed the historical analysis of platforms' content rules, the project will move towards analysing the public discourse on forms, means and justifications of a private governance of user content. The research was supported in 2015/16 by the German Academic Exchange Service (DAAD) in the form of a 7-month Visiting Fellowship at New York University. The VW-Stiftung funded the interdisciplinary project **Networks of Outrage** that Julian Außerhofer and Cornelius Puschmann jointly conducted with journalists from the Austrian newspaper *der Standard*. Over a period of nine months, the research explored the networks and messages of right wing movements such as Pegida through a large corpus of data from Twitter, Facebook and the Web. The researchers presented results at the Tenth International AAAI Conference on Web and Social Media (ICWSM) in Cologne and the 2016 Social Media & Society Conference in London.

In 2016 the European open access journal *Internet Policy Review*, led by HIIG's Policy and Governance team, focused on experimenting with open access publication models for interdisciplinary research communities and on publishing a total of 33 peer reviewed papers and three special issues: Big data: big power shifts, Regulating the sharing economy, and Doing internet governance.

Internet-enabled Innovation

In 2016, HIIG's **Innovation and entrepreneurship** research team continued to offer Startup Clinics to discuss challenges with founders, collect knowledge about hindering and supporting factors for internet-based startups and guide them to a network of high-level experts. In September, the first entrepreneurship dissertation was published; it discussed what competencies in sales and marketing a person needs to build and grow an internet-enabled startup and reach profitability, including. credibility, willingness to learn, perseverance, resilience, results orientation, communication skills, customer orientation and analytical capacity. By the end of the year, three more theses were finalised, including studies on financing strategies for high tech startups and data protection between openness to innovation and rule of law as well as on startup business model development. In addition we added a new branch of research with two additional research projects. The first one deals with the digitalisation of the German Mittelstand (funded by BMWi). Within the project consortium, we focus on researching the knowledge transfer between highly digitalised startups and SMEs. The second one deals with collaborations between startups and corporates (supported by Spielfeld Digital Hub). Thomas Schildhauer gave several speeches on these topics at national and international research and industry panels and conferences, for example, at the UNSW in Sydney.

Our three-year research project **User Innovation in the Energy Market** investigates the role of citizens and prosumers in that market. Despite the debate about the changing role of users in a sustainable and smart energy system, user-initiated innovation has largely been absent from the energy sector. In the first work package, we screened 2 474 scientific articles to analyse the research

landscape in the user innovation research field. We condensed relevant findings and evidence in a systematic literature review of 128 peer-reviewed articles that contrasts user-driven pooling (UDP) and firm-driven polling (FDP) communities. We are currently working on our second work package. In this, we are conducting a netnographic study on an open source hardware community that has developed an energy management tool. Our research focuses on the various community activities as triggers for new product developments in user communities. Parallel to this, we are preparing a comprehensive online survey to quantify the number of energy user innovators and to try to uncover their motives for or barriers to innovating. In our research, we are still collaborating with a research group from the University of New South Wales, Australia. We particularly share an interest in the enabling role of ICT and the community approach. In 2017, we are going to publish a joint research article.

In 2016, doctoral candidate Benedikt Fecher handed in his dissertation on the topic of data sharing in academia. Benedikt Fecher further published articles on the topic in the renowned journal *Science* and the disciplinary journal *Publications*. He also published an article on Open Access in the German national newspaper *Frankfurter Allgemeine Zeitung*, together with Gert G. Wagner from the German Institute for Economic Research. Two other articles on the topic, together with Sascha Friesike (HIIG), Marcel Hebing (HIIG) and Stephanie Linek (ZBW) are currently under review. In addition, the research group published an article in the renowned journal *Public Understanding of Science*. The article was written by Kaja Scheliga, Sascha Friesike, Cornelius Puschmann and Benedikt Fecher and applied case study research to investigate how crowd science projects come into being. Sascha Friesike was asked to become an expert on the Knowledge Exchange Open Scholarship Advisory Group by the German funding agency DFG. He also was invited to be a panel member of Nord Forsk's Open Science committee (Nord Forsk is the funding agency of the Nordic countries in Europe). The Open Science project is part of the Leibniz Science 2.0 research alliance.

In our Remixing for Innovation project we received good feedback from the *Journal of Information Technology* in round one and revised the paper accordingly. Currently, the paper is still under review in the second round of revisions. We also conducted further studies as part of the project. In the first one we interviewed 80 creatives on the platform Thingiverse on their remixing behavior. In a follow-up study, we used a survey to investigate remixing in a larger population. Results of our studies were featured in multiple talks, including in the Long Night of the Sciences and the Chaos Communication Congress.

Our research on open source product development in collaboration with the Technische Universität Berlin has been awarded a three year research grant by Agence Nationale de la Recherche (ANR) and the Deutsche Forschungsgemeinschaft (DFG). The research project will be carried out together with Université de Grenoble (Institute G-SCOP und CERAG), Raidlight SAS, OpenIT Agency, P2PLab und Open Source Ecology. The HIIG research team is currently reviewing business models for open source product development. In January, we will examine case study data on open source product development initiatives in light of the current review.

Global Constitutionalism and the Internet

Combining the theory of global constitutionalism with the possibilities of the internet is a central task of our research. In 2016, there was a particular focus on multilevel constitutionalism and eDemocracy. The interim results of a broader study on this subject were also raised by Ingolf Pernice at the Congreso del Futuro in Santiago de Chile. The results concerned general principles but also include benefits for equal borderless information, transparency, public deliberation spaces, direct participation, and e-voting. Among the conditions for any kind of democratic global ordering based upon the internet, the ones identified as most important were the recognition of common fundamental values and rights as spelled out in the various instruments of international law, free and equal access to the internet for everybody, a sufficient level of education and information that includes digital literacy, and a high level of trust in the internet, including strong protection of privacy and data security. Our research on **Global Privacy Governance** focuses on processes establishing standards and rules on privacy and data protection as a part of HIIG's research programme on the relationship between actors, data and infrastructure. We hosted an international workshop on the role of regulatory authorities in the governance of data protection. Analysing the substantive protection provided by data protection laws, we identified serious shortcomings in the law's narrow focus on regulating the handling of personally identifiable information, ignoring the consequences of using anonymised or statistical information for the rights and freedoms of individuals and groups in the information society. We also participated in the first round of a transatlantic digital dialogue, organised by the Stiftung Neue Verantwortung, on mass surveillance. For a specific application of privacy by design the research project **Goodcoin** aims at developing a bonus point and payment system that combines the advantages of statistical correlation analysis for retailers with the data protection interests of the participating customers. At the heart of this project is the technical design of such a system.

The research project **Digital Civil Disobedience** was finalised and submitted as a dissertation at Humboldt-Universität zu Berlin. The project combines the analysis of digital disobedience as a political practice with the discourse about civil disobedience in political philosophy. Building on this dialogue between theory and practice, this project argues for a wider definition of civil disobedience in comparison to the most dominant theories. The **KORSE** project on the law of civil security in Europe was successfully concluded in 2016. Two dissertation projects were successfully submitted, and two more dissertations are about to be completed. The topics concerned different aspects of cybersecurity. In a more general manner, the basic concept of security was reviewed regarding its application to basic rights. Another project inquired into the way in which the state handles information, particularly regarding security gaps and zero day exploits. A third topic was whether and under what circumstances private companies could be obliged to release data in criminal proceedings. The fourth dissertation deals with cybercrime policies and related powers of the European Union. Some of the members contributed to a very important edited volume in the field of civil security in Europe. Cybersecurity remains an important research topic for HIIG, and we held a workshop on key issues to be addressed within a new research project. The research in the **dwerft** project analyses the legal framework for creative re-uses of audiovisual works and preservation

efforts. Hosting platforms increasingly serve as the central intermediaries for distributing creative re-uses such as remixes or even documentary films. The project IoT and eGovernment took off in 2016 and focused on the regulation and the application of the internet of things by public administrations. It was important for us to get the basic ideas of IoT as well as the public administration right. A first workshop helped us to grapple with those questions. In this workshop we developed the basic research methodology for the first paper. This paper dealt with the legal reasons for but also the legal limits of IoT and public administration and the design aspect of the question. Building upon our learning, we organised a workshop bringing together practitioners and scholars from various disciplines in order to discuss questions of digitalisation, automation and their consequences for IT-security law, data protection and public administrative procedure.

NETWORK AND INTERNATIONAL RELATIONS

NETWORK OF CENTERS

For the Network of Centers, 2016 was characterised by major changes. It grew even further, from 63 members in 2015 to an astonishing 76 members from five continents. As the biggest research cluster in its field of studies, the NoC enables its members to connect easily and collaborate closely with researchers from all over the globe. The close relationship between the centres allows researchers to easily connect with colleagues for discussion and inspiration, and helps them to understand foreign developments. This extraordinary development is mostly due to the commitment of the Nexa Center for Internet and Society in Torino. Professor Juan Carlos de Martin, director of the Nexa Center, and his team have made an outstanding effort to lead and foster the Network in the last two years.

Meanwhile the NoC's members have been active in creating and presenting research and hosting and visiting events like 2016's AoIR in Berlin. With the NoC's Hangout Call Series, which looks at topics like an Internet Bill of Rights, a new format of knowledge transfer has successfully been tested. A repository for the network's combined knowledge will be the next step.

Since October 2016, the administrative lead of the network rotated to the Institute for Technology & Society of Rio de Janeiro (ITS Rio), which will head the network for the upcoming two years. Currently a roadmap for the next two years is being developed, which will be agreed upon shortly and will include new research projects, events, fellowships and other cooperations as well as the annual conference.

FELLOW PROGRAMME AND VISITING RESEARCHERS

The Fellow Programme has been offered since 2013. To become a HIIG Fellow in 2016, applicants from 17 different nations turned in their documents. After the selection procedure, including interviews, four fellows were selected in 2016, one for each of the institute's research departments. The fellows came from the USA, the Netherlands and Germany. The timeframes and duration of the stay varied between two and six months and some were extended to one year.

All fellows were assigned a research partner from the respective research department and were invited to participate in the joint activities of their research department. In the course of the programme, the institute offered several opportunities for organising workshops, writing blog articles, and working on papers with HIIG researchers alongside the individual doctoral projects. Moreover, by encouraging the fellows to present their research in so-called HIIG Clubs for the whole institute, crossovers between fellows and other research departments could emerge. For instance, fellow Stefan Baack became part of a research group on blockchain at the institute and might be coordinating it in the upcoming year. Timothy Libert used the stay in Berlin to connect with the digital community, giving talks at Berlin's C-Base.

All in all, as was also the case in 2015, the fellow programme of 2016 turned out to be very beneficial – both for the fellows and for the institute. Fellows from the 2015 cohort continued their collaboration with HIIG as long-term associated researchers in 2016, set up working groups at the institute, engaged with the HIIG Blog or supported the HIIG format Digitaler Salon. One former fellow will be returning to the HIIG as an employee in 2017.

After four years of successfully conducting the fellowship programme, the challenge for 2017 lies in supporting the fellows and strongly integrating them into teams, even though there will be fewer doctoral candidates at HIIG, who were always especially eager to support the exchange.

In addition to the fellowship programme, HIIG also served as a host institution for visiting researchers (a total of nine in 2016) coming from a variety of disciplinary backgrounds and countries, including Sweden, Germany, Brazil, Spain, Austria and Australia. The visiting periods varied from one to five months and the researchers initiated or participated in events such as AoIR (e.g. Axel Bruns, Stefan Larsson), Brown Bag Lunches (e.g. Max Hänska, Rikke Jorgensen), and joint projects (Maria Olmedilla Fernandez with the Smart Energy User Innovation); they were also present for some of the institute's quarterly meetings.

Due to the increasing number of applications and accepted visiting researchers since the last four years, costs (e.g. working spaces, coordination) are increasing too. The possibility of offering research stays at HIIG for a fee in order to continue successful arrangements for upcoming visiting researchers will be considered.

PROMOTING UP-AND-COMING RESEARCHERS

In 2012, HIIG implemented a doctoral programme to promote up-and-coming academics in the field of internet research. In 2013, the doctoral team was strengthened significantly with the launch of two research projects – and the programme grew again in 2014. Two doctoral students were hired for the BMBF-funded dwerft project and five other doctoral students joined HIIG's Internet and Entrepreneurship team to earn their doctorate working in the area of the Startup Clinics. Currently, there are 17 doctoral students at HIIG. The first two doctoral theses were published in 2016, and six further candidates submitted their works.

All doctoral students are given the opportunity to organise workshops concerning their own topics of interest and to attract (international) researchers to HIIG. In 2016, doctoral students took the opportunity to organise workshops right before or during the AoIR conference (e.g. Legal Hackathon by Max von Grafenstein), invited guest researchers and organised HIIG Club presentations together or tried other formats like a movie screening with discussion on copyright law (Remake, Remix, Rip-Off).

The strong integration of HIIG's doctoral students within the scientific community and the success of their networking activities should also be highlighted: the past year was characterised by several invitations to national and international academic events, paper presentations and publications. Many of HIIG's doctoral students took advantage of the opportunities to actively participate in international conferences (see examples below), used the travel fund for research stays abroad, and participated in training sessions and workshops at Berlin's universities or graduate centres. As many thesis are coming to an end, in 2016 the soft-skills training for doctoral candidates focused on presentation skills. Within the scientific community, the poster as a medium for academic presentations is widely recognised. During a two-day in-house workshop, doctoral candidates had the chance to develop and design their topics on posters, which were presented during the Long Night of the Sciences. Another goal of HIIG's work is to make research results accessible to a non-academic audience, too. Therefore, in-house training for presentations in the format of a science slam were organised, allowing researchers to refine their skills in explaining their topics in short, entertaining presentations. Since then, doctoral candidates have participated in many science slam events (Berlin to Israel).

TRANSFER OF RESEARCH THROUGH EVENTS, PLATFORMS, AND COMMUNICATION

Throughout the last years, HIIG has established itself as a source of information and knowledge for political actors, civil society and the economy. The reseach at HIIG is seen as an integral element in allowing stakeholders and the public to participate in a constructive dialogue on relevant social, economic and political issues.

EVENTS, WORKSHOPS, CONFERENCES

In 2016, HIIG team members invested considerable energy in running a lecture series on big data at the beginning of the year, preparing HIIG to participate in Berlin's Long Night of the Sciences for the first time, and organising the annual – and so far largest – Association of Internet Research conference AoIR 2016 in October. Those three projects were complemented by a variety of interesting events and workshops throughout the year. Among those, HIIG finally brought its monthly discussion panel Digitaler Salon in collaboration with DRadioWissen back to the institute's premises in March 2016 and managed to further increase the popularity of the event series, with up to 120 attendees in August on hate speech. HIIG also managed to secure new partners: mabb (Medienanstalt Berlin-Brandenburg) supported the May, August and October edition of the event format. The constitutionalism research team conducted a number of workshops around privacy, surveillance and data protection, including national and international participants from politics, administration and academia. Additionally, HIIG publicly screened two films *Democracy – Im Rausch der Daten* about the new EU Data Protection Law along with a lecture by Jan Philipp Albrecht, and *Remake, Remix, Rip Off* in presence of director Cem Kaya.

Big Data: Big Power Shifts?

Big data has been a major issue in internet-related public debates for several years now and it is still unclear what impact big data will have on societies, politics and markets. Viktor Mayer-Schönberger and Kenneth Cukier claim that big data is a "revolution that will transform how we live, work, and think". But whereas revolutions imply a profound shift in power relations, there is little evidence on and debate about whether and how big data affects power relations. A lecture series explored this topic with speakers from different backgrounds and was backed by a special issue of the *Internet Policy Review*. The topics of four individual events were chosen in order to address fields and issues where big data is making an important impact: media and social sciences, health, public sector and here, more specifically, education. The lectures took place from November 2015 to June 2016. The series was conducted in cooperation with the Vodafone Institute for Society and Communication.

- MAKING SENSE OF BIG DATA
  Thursday 5 November 2015 | 19:00 | British Embassy Berlin
- BIG DATA FOR HEALTH. WHO BENEFITS?
  Wednesday 10 February 2016 | 19:00 | Hörsaalruine, Charité
- BIG DATA FOR PRESIDENT!
  Monday 14 March 2016 | Estonian Embassy in Berlin
- FROM ALMA MATER TO ALGO MATER
  Wednesday 22 June 2016 | 19:00 | Leibniz-Saal der Berlin-Brandenburgischen Akademie der Wissenschaften

The number of registrations spanned 100 to 400 people depending on the capacities of the venue. Live streaming and short video clips increased the outreach of the lecture series. There were several

journalistic articles about the lectures, and four academic papers were published within an *Internet Policy Review* special issue in late April 2016. The special issue covered four fields of application of big data: commercial marketing, education, agriculture and border control.

Long Night of the Sciences

On 11 June 2016, HIIG opened its doors for the first time during the Long Night of the Sciences of Berlin and Potsdam. On the so-called smartest night of the year, more than 70 scientific institutions, laboratories and libraries that are usually closed to the public open their doors for visitors. In an extensive program full of exciting lectures, hands-on experiments and information booths, HIIG's research activities were introduced to a diverse audience including families, students and elderly citizens. Throughout the evening, a programme of short lectures introduced the institute's research agenda, ranging from innovative solutions to the climate change to juridical challenges in a remix culture. In addition to that, visitors could participate in quiz shows, watch the 3D printer do its magic or discover the original versions of popular video games. With more than 600 visitors throughout the night, HIIG further established itself within the Berlin academic landscape and among an extended audience. At the end, it was not only the visitors who gained insights into the world of internet research – the institute's researchers also got inspiration and useful feedback from their dialogue with the public.

Annual conference of the Association of Internet Researchers 2016

In 2016, the annual conference of the Association of Internet Research took place from 5 to 8 October at the premises of Humboldt-Universität zu Berlin and was hosted by the Alexander von Humboldt Institute for Internet and Society and the Hans-Bredow-Institut for Media Research, Hamburg. AoIR 2016 emphasised the relevance of the internet in today's culture and politics. The conference theme *Internet rules!* addressed the significance of the codes and rules that frame the internet, as well as their playful circumvention, from technical protocols and popular platforms to the emerging, established and contested conventions of online communities.

With about 580 participants, the conference was not only a huge project for the local hosts but also the biggest AoIR in history. The programme, including eight pre-conference workshops and 195 presentations and panels, was completed by an opening keynote on the first day as well as a public panel discussion on the second evening. The conference as a whole and in particular the public panel discussion prompted extensive press coverage in German high-impact newspapers and broadcast services as well as in the international press.

INTERNET POLICY REVIEW

The *Internet Policy Review* (ISSN 2197-6775) is an open access journal on internet regulation published by the Humboldt Institute for Internet and Society, in cooperation with CREATe in

Glasgow and the CNRS Institute of Communication Science (ISCC) in Paris. The journal's focus is on copyright, cybersecurity, and privacy, internet governance, and infrastructure in the European context. The peer-reviewed journal is listed with the Directory of Open Access Journals (DOAJ) and can be followed on Twitter and LinkedIn.

In 2016, the journal published 33 new research papers for a total of 83 research articles and 115 open editorials. The three most read papers remain *Internet censorship in Turkey* (Akgül and Kırlıdoğ, 2015), *Can human rights law bend mass surveillance?* (Joergensen, 2014), and *Necessary and inherent limits to internet surveillance* (Wright, 2013). The most cited paper is *Bitcoin: a regulatory nightmare to a libertarian dream* (De Filippi, 2014).

The journal has published three special issues in 2016:

- Big data: big power shifts? | Lena Ulbricht and Maximilian von Grafenstein (Eds.), with the support of the Vodafone Institute for Society and Communications
- Regulating the sharing economy | Kristofer Erickson and Inge Sørensen (Eds.)
- Doing internet governance: practices, controversies, infrastructures, and institutions | Dmitry Epstein, Christian Katzenbach, and Francesca Musiani (Eds.)

The journal was awarded OpenAIRE funding for APC-free open access journals and platforms in August and it organised an open access journal business model workshop at its headquarters in September. The *Internet Policy Review* released a reader on internet governance at the annual conference of the Association of Internet Researchers in Berlin (AoIR, October).

COMMUNICATION

In 2016, HIIG received a large number of press requests relating to all disciplines. Increasingly researchers are being asked to give interviews and statements, and to assess or evaluate recent developments, judgements or political decisions in the field of internet and society.

2016's press coverage on HIIG topics increased during the AoIR and the 5-year celebration. Many Berlin based newspapers as well as national newspapers, radio broadcasts covered these topics. Another very important project in terms of public outreach was the project Networks of Outrage, which was discussed in large scale press articles multiple times. If you want to keep track of the high media coverage and to publicise our availability for press requests, you can refer to the HIIG in the Media section on the HIIG website.

In order to increase the institute's public outreach and to empower researchers to communicate their findings and knowledge in 2016 we focused on training in presentation skills. The effects of these training sessions were evident during the Long Night of Sciences of Berlin, where the

academic output of the institute was presented within science slams that were recorded and are still available via the institute's YouTube channel.

Additionally, HIIG is using various academic and non-academic information platforms and communication tools, including:

- The HIIG website and blogs by our doctoral candidates and researchers: While the website is used to provide information regarding the institute and to announce current events (daily average of visits: 3 608), the doctoral candidates and researchers regularly provide information on their academic work on the institute's blog (blog.hiig.de), helping to shape it as a tool for putting scientific results up for discussion at an early stage (approx. 80 blog posts in 2016). A function to structure topics of the blog thematically in curated dossiers was also launched in 2016, which helps to draw the focus to older blog posts as soon as a topic emerges again in the public.
- Social media activities: Regular updates via social networks, alongside other forms of communication. Results (as of 1 December 2016):
  - Facebook: 2 844 likes (2015: 2 210)
  - Twitter: 5 330 tweets, 3 453 followers (2015: 2 815)
  - Youtube: 103 clips
  - Newsletter HIIG Quarterly (worldwide): 2 601 (2015: 2 276) subscribers, several subscriptions for HIIG events, CfP, positions
- OpeningScience.org: An online platform for the purpose of collecting information and research results concerning open science and discussing them. The aim is to implement various projects based on the open science principle
- Startup Clinics Knowledge Base: A video platform where experts and founders share their know-how in short Q&A videos based on questions frequently asked during the Startup Clinic sessions (125 videos, as of December 2016).

RESEARCH REPORT APPENDIX

APPENDIX: MONITORING OF THE INSTITUTE'S ACTIVITIES

To verify the institute's objectives are being met, common evaluation criteria were developed and approved by the HIIG Advisory Council. These criteria are understood as guidelines and used as a quantitative illustration of the institute's accomplishments:

Problem-oriented basic research on internet and society M.171
Promoting up-and-coming researchers M.177
A German node of an international network in the research area of the internet and society M.179
Interaction with politics, the civil society, and the economy regarding questions on internet and society. M.180
Securing and developing the institute's work M.185

Please note that the following tables can only reflect a selection of the institute's work.

PROBLEM-ORIENTED BASIC RESEARCH ON INTERNET AND SOCIETY

1. Research project applications (evaluated research grants, DFG, BMBF or alike)

SUBMITTED	TITLE/SUBMITTED AT	PARTNER	APPLICANTS
01.04.2016	Internet of Things Submitted at: Cisco (confirmed)	–	Thomas Schildhauer, Ingolf Pernice, Osvaldo Saldias, Robin Tech
03.04.2016	3 special broadcasts Digitaler Salon Submitted at: Medienanstalt Berlin-Brandenburg (mabb) (confirmed)	Medienanstalt Berlin-Brandenburg (mabb)	Wolfgang Schulz, Karina Preiß, Larissa Wunderlich
03.04.2016	Dynamik internetspezifischer Innovation an deutschen Hochschulen Submitted at: Commerzbank-Stiftung, Hertie School of Governance (submitted)	–	Wolfgang Schulz, Benedikt Fecher
12.04.2016	IP rights issues in the context of collaboration between corporates and startups Submitted at: Visa Collab Europe (confirmed)	–	Thomas Schildhauer, Martin Wrobel
18.04.2016	Universitas 2020+ Submitted at: BMBF (declined)	–	Wolfgang Schulz, Benedikt Fecher
02.05.2016	Integration von Sicherheit in urbanen Räumen (IN_SITU) Submitted at: BMBF (declined)	–	Jeanette Hofmann, Ingolf Pernice, Paul Gebelein
31.05.2016	ASSESSORS Submitted at: EU (declined)	–	Thomas Schildhauer, Wolfgang Schulz, Max von Grafenstein, Felix Krupar, Christian Katzenbach
01.06.2016	RIPE NCC Fellowship Submitted at: RIPE NCC (confirmed)	none	Jeanette Hofmann, Uta Meier-Hahn
01.06.2016	OPEN AIRE Submitted at: OPEN AIRE (EU FP7 post-grant OA publishing funds) (confirmed)	–	Jeanette Hofmann, Frédéric Dubois
08.06.2016	InnOAcceSS – Innovatives Open Access im Bereich Small Science. Infrastrukturkonsolidierung und Pilotierung von alternativen Finanzierungselementen am Beispiel des Internet Policy Review Submitted at: DFG (submitted)	Klaus Tochtermann (ZBW, Kiel)	Jeanette Hofmann, Paul Gebelein, Frederic Dubois
17.06.2016	Benchmarking Startup Ökosystem Submitted at: Berlin Partner, Next Media Accelerator, nextMedia.Hamburg, Zeitverlag (confirmed)	Berlin Partner, Next Media Accelerator, nextMedia.Hamburg, Zeitverlag	Thomas Schildhauer, Marcel Hebing
08.07.2016	Gentner Symposium 2018: Social, Economic and Legal Conditions of Creativity and Innovation Submitted at: Minerva Stiftung (declined)	Daphne Raban, University of Haifa, Israel	Christian Katzenbach, Jeanette Hofmann
05.10.2016	Symposium: Deliberative Innovation and innovative Deliberation – Shaping the Next Level of Online Participation Submitted at: Volkswagen Stiftung (submitted)	Thomas Wagenknecht (FZI Forschungszentrum Informatik Außenstelle Berlin)	Hendrik Send, Kirsten Gollatz

SUBMITTED	TITLE/SUBMITTED AT	PARTNER	APPLICANTS
31.10.2016	Leapfrogging into the world of IoT – Increasing electricity availability in the rural developing world through IoT Submitted at: Google (submitted)	–	Thomas Schildhauer, Robin Tech
31.10.2016	Blockchain based research data handling as a potential technical solution to sciences reproducibility crisis Submitted at: Google (submitted)	–	Thomas Schildhauer, Sönke Bartling, Sascha Friesike
01.11.2016	Mental models as way for mobile advertising Submitted at: Google (submitted)	–	Thomas Schildhauer, Martina Dopfer
18.11.2016	Konkurrent und Komplementär – Das Verhältnis betrieblicher Mitbestimmung und neuer Partizipationsplattformen Submitted at: Hans-Böckler-Stiftung (submitted)	Prof. Dr. Christof Weinhardt (FZI Forschungszentrum Informatik Außenstelle Berlin), Thomas Wagenknecht (FZI Forschungszentrum Informatik Außenstelle Berlin)	Hendrik Send, Kirsten Gollatz

2. Publications

Publishing research results based on the evaluation criteria

A special focus lies in highly recognised discipline-based journal publications as well as transdisciplinary journal publications.
Furthermore we aim to publish a number of open-access journal publications, peer-reviewed journal publications, chapters in edited volumes, and books reflecting our research objectives and programmes.

Please see full publications list on pp. 142 – 149.

3. Academic lectures and panels

Selected competitive/peer reviewed conference presentations

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: Theorien der Kommunikationswissenschaft zwischen Komplexitätssteigerung und Komplexitätsreduzierung	DGPuK Jahrestagung 2016. Organised by Deutsche Gesellschaft für Publizistik- und Kommunikationswissenschaft. Leipzig, Deutschland: 01.04.2016	Christian Pentzold, Christian Katzenbach
Lecture/Talk: Ubiquitous computing and increasing engagement of private companies in governmental surveillance	7th Biennial Surveillance and Society Conference: Power, performance and trust. Organised by Surveillance Studies Network (SSN). Barcelona, Spain: 22.04.2016	Adrian Haase
Lecture/Talk: Information laundering and counter-publics: The news sources of islamophobic groups on Twitter	Social Media in the Newsroom workshop at the 10th International AAAI Conference on Web and Social Media (ICWSM16) (Session: Social Media in the Newsroom). Leibniz, Germany: 17.05.2016	Cornelius Puschmann, Julian Ausserhofer, Noura Maan, Markus Hametner

EVENT ACTIVITY	EVENT	RESEARCHER
Session lead/Workshop moderation: Algorithms, Automation and Politics	Conference: Conference of the International Communication Association (ICA). Organised by International Communication Association (ICA). Fukuoka, Japan: 08.06.2016	Cornelius Puschmann
Session lead/Workshop moderation: Communication Research Methods 2016: Practices and Challenges	Conference: Conference of the International Communication Association (ICA). Organised by International Communication Association (ICA). Fukuoka, Japan: 09.06.2016	Cornelius Puschmann
Lecture/Talk: What are the topics of populist anti-immigrant movements on Facebook?	Social Media & Society Conference. London, UK: 13.07.2016	Cornelius Puschmann, Julian Ausserhofer, Noura Maan, Markus Hametner
Panel: Internet as an Emerging Policy Domain	Conference: 24th World Congress of Political Science. Organised by International Political Science Association (IPSA). Poznań, Poland: 25.07.2016	Jeanette Hofmann
Panel: Stakeholders, Powers and Inequalities in Global Internet Governance	Conference: 24th World Congress of Political Science. Organised by International Political Science Association (IPSA). Poznań, Poland: 25.07.2016	Jeanette Hofmann
Panel: Social Studies of Politics: Making Collectives By All Possible Means	Conference: 4S/EASST Conference BCN-2016. Organised by European association for the study of science and technology, Society for Social Studies of Science (4S). Barcelona, Spain: 01.09.2016	Jeanette Hofmann, Julia Pohle
Lecture/Talk: Regulating IT-Security	Journée d'étude – Cyberespionnage et surveillance numérique. Paris, France: 23.09.2016	Christian Djeffal
Lecture/Talk: Algorithmen, Daten und schwarze Kisten: Zur (Wieder-)Entdeckung der Technik in der Kommunikationswissenschaft	Digitale Kommunikation. Zum Stand der Forschung. Organised by Fachgruppe Digitale Kommunikation der DGPuK. Braunschweig, Germany: 03.11.2016	Christian Katzenbach
Lecture/Talk: Empörungsöffentlichkeiten im Netz: Zur Beziehung von Themen, Akteuren und Quellen auf der Pegida-Facebookpage	Jahrestagung der DGPuK Fachgruppe Digitale Kommunikation 2016. Braunschweig, Germany: 04.11.2016	Cornelius Puschmann, Julian Ausserhofer
Lecture/Talk: Regulations, Norms, Discourses and Technology: An Integrated Governance Perspective for Media and Communication Studies	ECREA 2016 – 6th European Communication Congress. Prague, Czech Republic: 09.11.2016	Christian Katzenbach

Selected invitations to academic lectures and panels

EVENT ACTIVITY	EVENT	RESEARCHER
International scope		
Panel: Rebooting Democracy	Conference: ESPAS 2016 Annual Conference. Organised by European Strategy and Policy Analysis System. Brussels, Belgium: 17.11.2016	Jeanette Hofmann
Lecture/Talk: Playing without rules? An empirical study into imitation and innovation in the games industry	Monthly Internal Lecture Series 'Spreektafel'. Organised by Institute for Information Law (IViR). Amsterdam, The Netherlands: 22.01.2016	Lies van Roessel

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: The Origins of the IGF: A Tale of Contingencies and Competing Claims to Power	Barcelona Workshop on Global Governance 2016: Adaptation and Change in Global Governance (Session: The Creation of Global Institutions). Organised by ESADEgeo: Center for Global Economy and Geopolitics; Institut Barcelona d'Estudis Internacionals (IBEI). Barcelona, Spain: 05.02.2016	Jeanette Hofmann
Lecture/Talk: Towards a new approach for the regulation of audiovisual media	EuroCPR 2016 – Content Creation and Distribution in the Digital Single Market (Session: Getting media regulation right). Organised by The Centre for European Policy Studies (CEPS). Brussels, Belgium: 15.03.2016	Wolfgang Schulz
Lecture/Talk: Memes im Urheberrecht – Eine Bestandsaufnahme mit Blick auf deutsche und amerikanische Schranken	"One does not simply…" – Memes zwischen #Originalität und #Viralität, Interdisziplinärer Workshop (Session: Memes und Recht). Organised by Graduiertenkolleg Innovationsgesellschaft heute of TU Berlin in cooperation with Gesellschaft für Musikwirtschafts- und Musikkulturforschung (GMM), and HMKW Berlin. Berlin, Germany: 16.03.2016	Rike Maier
Lecture/Talk: Open innovation from an organisational perspective	Seminar with Digital Enablement Research Group (DERG). Organised by UNSW Business School. Sydney, Australia: 21.03.2016	Thomas Schildhauer
Lecture/Talk: Perspectives on Academic Data Sharing	ICONECSS (Session: Science 2.0 and Open Science Practices). Organised by ZBW – Leibniz Information Centre for Economics. Berlin, Germany: 20.04.2016	Benedikt Fecher
Lecture/Talk: Rage Against the Elites? Polarisation and Counter-publics in Online Discourse on Immigration and Climate Change	Fourth Conference on Games, Interaction, Reasoning, Learning and Semantics. Lund, Sweden: 28.04.2016	Cornelius Puschmann
Lecture/Talk: Finding Answers to the Intertemporal Question. Static and Evolutive Treaty Interpretation: A Functional Reconstruction	Public Lecture: Finding Answers to the Intertemporal Question. Paris, France: 03.05.2016	Christian Djeffal
Lecture/Talk: Consensus, Stasis, Evolution: Reconstructing Argumentative Patterns in the Context of Static and Evolutive Interpretations	Conference: Building consensus on European consensus. Florence, Italy: 01.06.2016	Christian Djeffal
Session lead/Workshop moderation: Qualitative Analysis	Conference: Strategic Management Conference. Organised by Strategic Management Conference. Rome, Italy: 06.06.2016	Nancy Richter
Lecture/Talk: The Interplay between Data Protection Principles and Data-Driven Innovation	EuroDIG 2016. Brussels, Belgium: 09.06.2016	Max von Grafenstein
Session lead/Workshop moderation: Communicating Nature, Sustainability, and Environmental Issues Using Online Media Channels	Conference: Conference of the International Communication Association (ICA). Organised by International Communication Association (ICA). Fukuoka, Japan: 11.06.2016	Cornelius Puschmann
Lecture/Talk: User innovation in communities: A systematic literature review	16th International Schumpeter Society Conference: (Session: The Digital Economy). Organised by International Schumpeter Society. Montréal, Canada: 08.07.2016	Matti Große
Lecture/Talk: Doing Governance in Figurations: Proposal of an analytical framework	EASST/4S2016. Organised by European Association for the Study of Science and Technology (EASST) and Society for Social Studies of Science (4S). Barcelona, Spain: 02.09.2016	Wolfgang Schulz, Markus Oermann
Lecture/Talk: Data Management in den Wirtschaftswissenschaften	VfS-Jahrestagung 2016: Demographischer Wandel. Organised by Verein für Socialpolitik. Augsburg, Germany: 04.09.2016	Benedikt Fecher
Panel: Doing STS-informed Internet Governance Research	Workshop: The Internet Rules, But How? A Science and Technical Studies Take on Doing Internet Governance (Pre-Conference Workshop, AoIR 2016). Organised by AoIR, Humboldt Institut für Internet und Gesellschaft, Hans-Bredow-Institut. Berlin, Germany: 05.10.2016	Kirsten Gollatz, Christian Katzenbach, Jeanette Hofmann

EVENT ACTIVITY	EVENT	RESEARCHER
Session lead/Workshop moderation: Big Nudging: a dream of social cybernetics come true?	Conference: AoIR 2016 – Annual Conference of the Association of Internet Researchers. Berlin, Germany: 07.10.2016	Jeanette Hofmann
Lecture/Talk: The Relationships between Data and a Person – Broken Concepts and Perspectives	Symposium on Big Data and Data Governance (Session: Data Ownership, Data Access and Power Structure). Organised by The Law and Technology Centre (HKU). Hong Kong, China: 14.10.2016	Wolfgang Schulz
Lecture/Talk: Thinking about democracy in the digital age	Web Science Institute Distinguished Lecture. Organised by Web Science Institute. Southampton, United Kingdom: 14.10.2016	Jeanette Hofmann
Lecture/Talk: Freedom of Expression for Computers – Algorithms from a Constitutional Perspective	Symposium on Big Data and Data Governance (Session: Algorithmic Decision Making). Organised by The Law and Technology Centre (HKU). Hong Kong, China: 15.10.2016	Felix Krupar
Lecture/Talk: Internet and Democracy – An STS Perspective	International Symposium on Internet Governance. Organised by Internet & Communication Policy Centre. Salerno, Italy: 10.11.2016	Jeanette Hofmann
Session lead/Workshop moderation: Digitale Disruption und digitale Geschäftsmodelle	Conference: BMI Workshop. Organised by Universität St. Gallen. St. Gallen, Switzerland: 29.11.2016	Jessica Schmeiss
Lecture/Talk: The founding of the IGF – a field theoretical perspective	GigaNet 11th Annual Symposium (Session: Actors and Policies in Internet Governance). Organised by Global Internet Governance Academic Network (GigaNet). Guadalajara, Mexico: 05.12.2016	Jeanette Hofmann
Panel: Encryption and Safety of Journalists in the Digital Age	Conference: IGF 2016 – Internet Governance Forum. Guadalajara, Mexico: 07.12.2016	Wolfgang Schulz
Lecture/Talk: Dimensions of Privacy	The Asian Privacy Scholars Network 5th International Conference (Session: Panel 4: Technology and Surveillance). Organised by The Department of Commercial Law. Auckland, New Zealand: 13.12.2016	Wolfgang Schulz
National scope		
Lecture/Talk: Sozialer Raum und Technik	Masterseminar: Stadt- und Raumsoziologie. Organised by Prof. Martina Löw. Berlin, Germany: 06.01.2016	Paul Gebelein
Lecture/Talk: Digitale Dilemmata	Digitale Dilemmata (Session: Leopoldina-Lecture: Der vernetzte Bürger). Organised by Nationale Akademie der Wissenschaften Leopoldina. Hannover, Germany: 10.02.2016	Jeanette Hofmann
Lecture/Talk: Die Einwilligung im Datenschutz als Governance-Frage	Ringkolloquium: Digitale Herausforderungen. Organised by Humboldt-Universität zu Berlin, Technische Universität Berlin, Freie Universität Berlin. Berlin, Deutschland: 19.05.2016	Jeanette Hofmann
Lecture/Talk: Aktive Staatskommunikation in der Informationsgesellschaft – Strukturen und Grenzen	18. Deutscher Verwaltungsgerichtstag (Session: Informationsverwaltungsrecht in der Informationsgesellschaft). Organised by Verwaltungsgerichtstag. Hamburg, Germany: 02.06.2016	Wolfgang Schulz
Panel: Zukünftige Herausforderungen für die Unternehmenskommunikation durch die digitale Vernetzung	Workshop: Digitale vernetzte Unternehmenskommunikation – wie Unternehmen zukünftig kommunizieren. Organised by Akademische Gesellschaft für Unternehmensführung & Kommunikation. Berlin, Germany: 23.06.2016	Thomas Schildhauer
Session lead/Workshop moderation: Bedingungen für die Ausübung von Meinungsfreiheit im Internet	Conference: Gefährdet Big Data unsere Demokratie? Organised by Vereinigung Deutscher Wissenschaftler VDW e.V., Ev. Akademie Villigst. Schwerte, Germany: 15.10.2016	Kirsten Gollatz
Session lead/Workshop moderation: Bedingungen für die Ausübung von Meinungsfreiheit im Internet	Conference: Gefährdet Big Data unsere Demokratie? Organised by Vereinigung Deutscher Wissenschaftler VDW e.V., Ev. Akademie Villigst. Schwerte, Germany: 15.10.2016	Kirsten Gollatz

Selected organisation of academic lectures and panels

EVENT	LOCATION/DATE	RESEARCHER
International scope		
Workshop: Global Constitutionalism	University of Talca, Santiago, Chile 19.01.2016	Osvaldo Saldías, Ingolf Pernice
Workshop: The Role of Regulatory Authorities in the Governance of Data Protection	Humboldt Institut für Internet und Gesellschaft, Berlin, Germany 20.05.2016	Marie-Christine Dähn, Jörg Pohle, Ingolf Pernice
Workshop: Pre-Conference Workshop (AoIR 2016): The Internet Rules, But How? A Science and Technical Studies Take on Doing Internet Governance	Humboldt Universität zu Berlin, Berlin, Germany 05.10.2016	Christian Katzenbach
Workshop: Pre-Conference Workshop (AoIR 2016): Legal Hackathon	Humboldt Universität zu Berlin, Berlin, Germany 05.10.2016	Max von Grafenstein, Jörg Pohle
Conference: AoIR 2016 – Annual Conference of the Association of Internet Researchers	Humboldt Universität zu Berlin, Berlin, Germany 05.10.2016 – 08.10.2016	Christian Katzenbach, Cornelius Puschmann, Larissa Wunderlich
Workshop: The mindful firm	Copenhagen Business School, Copenhagen, Denmark 25.11.2016	Martina Dopfer
National scope		
Workshop: II. Interdisziplinärer Workshop: Privacy, Datenschutz & Surveillance	Humboldt Institut für Internet und Gesellschaft, Berlin, Germany 30.06.2016	Jörg Pohle
Workshop: IoT and eGovernment	Humboldt Institut für Internet und Gesellschaft, Berlin, Germany 04.08.2016	Christian Djeffal, Julian Hölzel, Robin P. G. Tech, Ingolf Pernice, Wolfgang Schulz, Rüdiger Schwarz
Seminar/Teaching series: Democracy reloaded: Demokratieverständnisse in der digitalen Gesellschaft	Institut für Publizistik- und Kommunikationswissenschaft, Freie Universität Berlin, Berlin, Germany 19.10.2016 – 15.02.2017	Jeanette Hofmann
Workshop: Vom eGovernment zu Smart Government?	Humboldt Institut für Internet und Gesellschaft, Berlin, Germany 01.12.2016 – 02.12.2016	Christian Djeffal, Julian Hölzel, Ingolf Pernice
Workshop: III. Interdisziplinärer Workshop Privacy, Datenschutz & Surveillance	Humboldt Institut für Internet und Gesellschaft, Berlin, Germany 09.12.2016	Marie-Christine Dähn, Jörg Pohle

PROMOTING UP-AND-COMING RESEARCHERS

1. Selected contributions to conferences

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: Perspectives on Academic Data Sharing	ICONECSS (Session: Science 2.0 and Open Science Practices). Organised by ZBW – Leibniz Information Centre for Economics. Berlin, Germany: 20.04.2016	Benedikt Fecher
Lecture/Talk: Ubiquitous computing and increasing engagement of private companies in governmental surveillance	7th Biennial Surveillance and Society Conference: Power, performance and trust. Organised by Surveillance Studies Network (SSN). Barcelona, Spain: 22.04.2016	Adrian Haase
Lecture/Talk: The Interplay between Data Protection Principles and Data-Driven Innovation	EuroDIG 2016. Brussels, Belgium: 09.06.2016	Max von Grafenstein
Lecture/Talk: Data Management in den Wirtschaftswissenschaften	VfS-Jahrestagung 2016: Demographischer Wandel. Organised by Verein für Socialpolitik. Augsburg, Germany: 04.09.2016	Benedikt Fecher
Lecture/Talk: How business model innovation becomes a cognitive startup capability	Strategic Management Conference. Organised by Strategic Management Society. Berlin, Germany: 20.09.2016	Martina Dopfer
Session lead/Workshop moderation: Digitale Disruption und digitale Geschäftsmodelle	Conference: BMI Workshop. Organised by Universität St. Gallen. St. Gallen, Switzerland: 29.11.2016	Jessica Schmeiss

2. Academic visibility and impact

PUBLICATION	RESEARCHER
Fecher, B. (2016). "Mehr Licht" Offenheit muss sich lohnen. *Laborjournal Online*.	Benedikt Fecher
Fecher, B. & Wagner, G. (2016). Open Access, Innovation, and Research Infrastructure. *Publications*, 4(2).	Benedikt Fecher
Fecher, B. & Wagner, G. (2016). A research symbiont. *Science*, 351(6280), 1405 – 1406.	Benedikt Fecher
Fecher, B. & Wagner, G. (2016). Flipping Journals to Open: Rethinking Publishing Infrastructure. *DIW Berlin Diskussionspapier*, 1533.	Benedikt Fecher
Fecher, B., Fräßdorf, M., & Wagner, G. (2016). Perceptions and Practices of Replication by Social and Behavioral Scientists: Making Replications a Mandatory Element of Curricula Would Be Useful. *DIW Berlin Diskussionspapier*, 1572.	Benedikt Fecher
Friesike, S. & Fecher, B. (2016). Collaboration, participation and transparency: the promise of digitizing academic research. In Olleros, F. X. & Zhegu, M. (Eds.), *Research Handbook on Digital Transformations* (pp. 121 – 34). Cheltenham: Edward Elgar Publishing Limited.	Benedikt Fecher
Friesike, S. & Fecher, B. (2016). Crowd Science: Forschung im digitalen Zeitalter. In Gassmann, O. & Sutter, P. (Eds.), *Digitale Transformation im Unternehmen gestalten: Geschäftsmodelle Erfolgsfaktoren Fallstudien Handlungsanweisungen* (pp. 135 – 46). München: Carl Hanser Verlag.	Benedikt Fecher
Grafenstein, M. v. & Schulz, W. (2016). The right to be forgotten in data protection law: a search for the concept of protection. *International Journal of Public Law and Policy*, 5(3).	Maximilian von Grafenstein
Leisterer, H. (2016). Das Informationsverwaltungsrecht als Beitrag zur Netz- und Informationssicherheit am Beispiel von IT-Sicherheitslücken. In Kugelmann, D. (Ed.), *Sicherheit. Polizeiwissenschaft und Sicherheitsforschung im Kontext* (pp. 135 – 50). Baden-Baden: Nomos.	Hannfried Leisterer
Leuschner, S. (2016). EuGH und Vorratsdatenspeicherung: Erfindet Europa ein neues Unionsgrundrecht auf Sicherheit ? In Schneider, F. & Wahl, T. (Eds.), *Herausforderungen für das Recht der zivilen Sicherheit in Europa* (pp. 17 – 6). Baden-Baden: Nomos.	Sebastian Leuschner
Maier, H. (2016). German Federal Court of Justice rules on parody and free use. *Journal of Intellectual Property Law and Practice*.	Henrike Maier
Maier, H. (2016). Meme und Urheberrecht. *GRUR-Prax*, 2016(19), 397 – 398.	Henrike Maier

PUBLICATION	RESEARCHER
Meier-Hahn, U. (2016). Exploring the Regulatory Conditions of Internet Interconnection – A Survey Among Internet Interconnection Professionals. *HIIG Discussion Paper Series*, 2016(03).	Uta Meier-Hahn
Peters, E. (2016). Strafrecht und Datenschutz im Internet. In Kugelmann, D. (Ed.), *Migration, Datenübermittlung und Cybersicherheit. Grundfragen und ausgewählte Handlungsfelder der Zusammenarbeit von Sicherheits- und Strafverfolgungsbehörden in der EU* (pp. 167 et seq.). Baden-Baden: Nomos.	Emma Peters
Sauer, R., Dopfer, M., Schmeiss, J., & Gassmann, O. (2016). Geschäftsmodellinnovation: Gral der Digitalisierung. In Gassmann, O. & Sutter, P. (Eds.), *Führung der Digitalisierung* (pp. 15 – 28). München: Hanser.	Martina Dopfer, Jessica Schmeiss
Scheliga, K., Friesike, S., Puschmann, C., & Fecher, B. (2016). Setting up crowd science projects. *Public Understanding of Science*, 1 – 20.	Kaja Scheliga, Benedikt Fecher
Schulz, W. & Staben, J. (2016). Regulierungsradar: Recht und Internet. In Gassmann, O. & Sutter, P. (Eds.), *Digitale Transformation im Unternehmen gestalten* (pp. 147 – 154). Munich: Carl Hanser Verlag.	Julian Staben
Staben, J. (2016). *Der Abschreckungseffekt auf die Grundrechtsausübung – Strukturen eines verfassungsrechtlichen Arguments.* Tübingen: Mohr Siebeck.	Julian Staben
Tech, R., Ferdinand, J., & Dopfer, M. (2016). Open Source Hardware Startups and Their Communities. In Ferdinand, J., Petschow, U., & Dickel, S. (Eds.), *The Decentralized and Networked Future of Value Creation*. Berlin: Springer.	Robin Tech, Martina Dopfer
Ulbricht, L. & Grafenstein, M. v. (2016). Big data: big power shifts? *Internet Policy Review*, 5(1).	Maximilian von Grafenstein
Wrobel, M. (2016). *Ermittlung eines personenspezifischen Kompetenzprofils für Internet-enabled Startups in den Bereichen Marketing und Vertrieb*. Berlin: epubli.	Martin Wrobel
Züger, T., Milan, S., & Tanczer L. (2016). Sand in the Information Society Machine: How Digital Technologies Change and Challenge the Paradigms of Civil Disobedience. *Fibreculture Journal: internet theory criticism research*, 25.	Theresa Züger

3. Students who completed their doctoral thesis

DOCTORAL THESIS	RESEARCHER
Staben, J. (2016). *Der Abschreckungseffekt auf die Grundrechtsausübung – Strukturen eines verfassungsrechtlichen Arguments.* Tübingen: Mohr Siebeck.	Julian Staben
Wrobel, M. (2016). *Ermittlung eines personenspezifischen Kompetenzprofils für Internet-enabled Startups in den Bereichen Marketing und Vertrieb*. Berlin: epubli.	Martin Wrobel

A GERMAN NODE OF AN INTERNATIONAL NETWORK IN THE RESEARCH AREA OF THE INTERNET AND SOCIETY

1. Involvement in NoC events

Involvment in external NoC events

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: The Relationships between Data and a Person – Broken Concepts and Perspectives	Symposium on Big Data and Data Governance (Session: Data Ownership, Data Access and Power Structure). Organised by The Law and Technology Centre (HKU). Hong Kong, China: 14.10.2016	Wolfgang Schulz
Lecture/Talk: Code and the Power of Defaults	Symposium on Big Data and Data Governance (Session: Consent and Code). Organised by The Law and Technology Centre (HKU). Hong Kong, China: 14.10.2016	Kevin Dankert
Lecture/Talk: Governance of Algorithmed Public Spheres: Normative Structures of Automatically Curated Communication	Symposium on Big Data and Data Governance (Session: Data Ownership, Data Access and Power Structure). Organised by The Law and Technology Centre (HKU). Hong Kong, China: 15.10.2016	Markus Oermann
Lecture/Talk: Freedom of Expression for Computers – Algorithms from a Constitutional Perspective	Symposium on Big Data and Data Governance (Session: Algorithmic Decision Making). Organised by The Law and Technology Centre (HKU). Hong Kong, China: 15.10.2016	Felix Krupar

Organisation of NoC events

EVENT	LOCATION/DATE	RESEARCHER
Discussion/Meeting: Global Network of Internet and Society Research Centers Inaugural Executive Committee Meeting	Humboldt-Universität zu Berlin, Berlin, Germany 08.10.2016	Wolfgang Schulz, Felix Krupar

2. Organising an annual fellowship-programme for associated post graduates

FELLOW/DATE/PROJECT PARTNER	SHORT CV/HOME INSTITUTION
Timothy Libert 01.01.2016 – 31.12.2016 Paul Gebelein	Timothy Libert is a doctoral candidate at the Annenberg School for Communication at the University of Pennsylvania, where he also graduated with a Master of Arts in Communication. His research focuses on privacy-compromising information flows on the web, and he is the author of the open-source software platform webXray. University of Pennsylvania
Manon Oostveen 11.01.2016 – 08.04.2016 Jörg Pohle	Manon Oostveen is a PhD candidate at the Institute for Information Law, University of Amsterdam, where she also graduated with a Research Master in Information Law. Furthermore she holds an LL.M. in Information Technology and Intellectual Property Law from Leibniz Universität Hannover. Her research is on the protection of the private life of individuals in the context of big data, focusing on fundamental rights protection and European data protection regulation. University of Amsterdam
Stefan Baack 01.02.2016 – 31.10.2016 Osvaldo Saldías	Stefan Baack is a PhD student at the University of Groningen in the Netherlands. He studied Media Culture at the University of Bremen and wrote his master thesis about the German open data movement. His research is about the interconnections between hackers and data journalists and the related effects of datafication, the ongoing and increasingly ubiquitous quantification and categorization of culture and society. University of Groningen
Sabina García Peter 15.02.2016 – 01.04.2016 Benedikt Fecher	Sabina García Peter is a post-doctoral researcher at the Institute for Latin-American Studies at Freie Universität Berlin, where she also finished her PhD in Sociology. She is currently involved in a research project with the title: *E-research in Latin America – A way to overcome asymmetries of knowledge?* Freie Universität Berlin

INTERACTION WITH POLITICS, THE CIVIL SOCIETY, AND THE ECONOMY REGARDING QUESTIONS ON INTERNET AND SOCIETY

1. Selected coverage of the HIIG's work and its researchers in high impact media and online sources

TITLE	MEDIUM/DATE	SUBJECT
Interview: Facebooks Initiative 'Free Basics': Unter welchen Bedingungen sollen Offliner ins Netz kommen?	Breitband, DRadio Kultur (Radio) 16.01.2016	Jeanette Hofmann
Quote: Die subversive Kunst der 'Barbara'	NDR Kulturjournal (TV) 25.01.2016	Cornelius Puschmann
Quote: Phänomen der Katzen-Videos: Der Miau-Miau-Netz-Wahnsinn	Stuttgarter Nachrichten.de (Online) 03.02.2016	Urs Kind
Article: Zukunft des Journalismus: Journalisten werden eine neue Rolle haben	Zeit Online (Online) 05.02.2016	Ayad Al-Ani
Reference: Big Data für die Gesundheit. Fast jeder zweite Deutsche ist dafür	Weser Kurier (Print) 15.02.2016	Humboldt Institute for Internet and Society
Reference: Tracking durch Drittanbieter auf einer Million Webseiten	Netzpolitik (Online) 08.03.2016	Timothy Libert, Humboldt Institute for Internet and Society
Article: Zukunftsangst ist keine Lösung	Die Zeit (Print) 25.03.2016	Ayad Al-Ani
Interview: Internet-Carrier beklagen immer mehr Regulierung	Deutschlandfunk (Radio) 09.04.2016	Uta Meier-Hahn
Interview: Utopie oder Realität? Rückblick Digitaler Salon – re:publica ante portas	politik-digital.de (Online) 01.05.2016	Digitaler Salon
Quote: Facebook: Huch, da sitzen ja Menschen!	Zeit Online (Online) 10.05.2016	Cornelius Puschmann
Reference: Ohoven: Mittelstand wird digital – Start Kompetenzzentrum Mittelstand 4.0	finanzen.net (Online) 13.05.2016	Humboldt Institute for Internet and Society
Reference: Zuckerberg to Meet With Leading Conservatives on Facebook Bias Claims	eweek.com (Online) 16.05.2016	Internet Policy Review
Article: Wissenschaftsnacht: Wie Pegida und andere Rechtspopulisten kommunizieren	Berliner Zeitung (Print) 31.05.2016	Network of Outrage
Quote: Landkarten der Gesellschaft. Populistische Bewegungen wie Pegida kommunizieren über soziale Netzwerke. Forscher untersuchen und visualisieren, wer mit wem redet	Berliner Zeitung (Print) 01.06.2016	Julian Ausserhofer, Cornelius Puschmann
Article: Geistiges Eigentum in der Videospiele-Kultur: Diebstahl, Inspiration und das juristische Bauchgefühl	DRadio Kultur (Radio) 16.06.2016	Christian Katzenbach, Lies van Roessel
Quote: Twitter bots play murky role in US presidential election campaign	Deutsche Welle (Print) 22.06.2016	Cornelius Puschmann
Quote: Hacktivists keep refugees online in dead zone Germany	Newsweek (Online) 07.07.2016	Theresa Züger
Article: Das Gegenteil von Lügenpresse	Der Standard (Online) 10.07.2016	Networks of Outrage
Article: Governance: Warum wir tun, was wir tun	DRadio Wissen (Radio) 16.07.2016	Jeanette Hofmann, Wolfgang Schulz

TITLE	MEDIUM/DATE	SUBJECT
Interview: IT-Rechtsexperte Hannfried Leisterer: 'Cyber-Angriffe sind eine reale Gefahr'	DRadio Kultur (Radio) 27.07.2016	Hannfried Leisterer
Interview: Der Tag – Nachrichten und Hintergrund: Interview mit Katharina Beitz zum Darknet	Deutsche Welle (TV) 19.08.2016	Katharina Beitz
Interview: Debatte um Nutzer-Sperren: Facebook braucht eine Hotline	Spiegel Online (Online) 26.08.2016	Kirsten Gollatz
Article: Wie Blockchain die Wissenschaft verbessern könnte	iRights (Online) 06.09.2016	Benedikt Fecher, Sönke Bartling
Interview: Wissenschaftler im Interview: 'Das Internet ist kein Wilder Westen mehr'	Berliner Zeitung (Print) 07.10.2016	Cornelius Puschmann
Reference: Wer regiert das Netz?	Tagesspiegel (Print) 08.10.2016	Christian Katzenbach, Humboldt Institute for Internet and Society, AoIR2016
Article: Die Wissenschaft des WWW. Seit fünf Jahren wird am HIIG das Netz erforscht	Tagesspiegel (Print) 08.10.2016	Humboldt Institute for Internet and Society
Reference: Machine logic: our lives are ruled by big tech's 'decisions by data'	The Guardian (Online) 08.10.2016	Humboldt Institute for Internet and Society, AoIR2016
Quote: Wenn der Hass postet	Süddeutsche Zeitung (Print) 13.10.2016	Networks of Outrage, Humboldt Institute for Internet and Society, AoIR2016
Interview: 'Zwangsläufig ist gar nichts' – 5 Jahre Internetforschung am Alexander von Humboldt Institut für Internet und Gesellschaft	pro media (Print) 01.11.2016	Jeanette Hofmann, HIIG
Article: Open Access oder: die Zurückeroberung der Autonomie	Merton (Online) 03.11.2016	Benedikt Fecher
Kontrolle über die eigenen Daten – Risikodialog zum Thema 'Datensouveränität'	Ö1/ORF (Radio) 23.11.2016	Ayad Al-Ani
Interview: Prominente entwerfen Charta digitaler Grundrechte	Spiegel Online (Online) 30.11.2016	Jeanette Hofmann
Interview: Ich wünsche mir eine nachdenkliche Debatte	DW Akademie (Online) 16.12.2016	Jeanette Hofmann

2. Developing formats for knowledge transfer e.g. regular events, event cooperations, publications, platforms or information services as part of the exchange with our target groups and to further transdisciplinary networking

Please see *Transfer of research through events, platforms, and communication* on pp. R.164 – R.168.

3. Selected invitations to non-academic lectures, panel discussions, public hearings

EVENT ACTIVITY	EVENT	RESEARCHER
International scope		
Lecture/Talk: Die Einwilligung im Datenschutz als Governance-Frage	20. Berliner Kolloquium: Der Datenmensch. Über Freiheit und Selbstbestimmung in der digitalen Welt. Organised by Berliner Kolloquium. Berlin, Germany: 11.05.2016	Jeanette Hofmann
Participating expert	Hearing: Development Digital Charta. Brussels, Belgium: 01.01.2016	Jeanette Hofmann
Discussion/Meeting	Workshop: Workshop eGovernment and Privacy. Organised by Chilean Superintendency for Insolvency and Re-Entrepreneurship. Santiago, Chile: 21.01.2016	Ingolf Pernice, Osvaldo Saldias
Discussion/Meeting	Workshop: Semantic interoperability in eHealth and Public Sector Meeting: eGovernment and eHealth. Organised by Chilean Ministry of Health (ICT Division). Santiago, Chile: 22.01.2016	Osvaldo Saldias
Lecture/Talk: Governing in the 21th Century	V Congreso del Futuro 2016. Organised by Chilean Senat. Santiago, Chile: 23.01.2016	Ingolf Pernice
Lecture/Talk: IoT & Privacy	Startup Camp Berlin. Organised by Humboldt-Universität zu Berlin. Berlin, Germany: 08.04.2016	Maximilian von Grafenstein
Lecture/Talk: How to land your first customers	Startup Camp Berlin. Organised by Humboldt-Universität. Berlin, Germany: 08.04.2016	Martin Wrobel
Panel: Wider die Herrschaft der Algorithmen! Wie bekommen wir die Kontrolle zurück?	Conference: re:publica 2016. Berlin, Germany: 02.05.2016	Cornelius Puschmann
Lecture/Talk: Internet Governance: Constellations of trust and distrust	Youth Conference: Digital Commons. Organised by Heinrich-Böll-Stiftung, Green European Foundation. Belgrade, Serbia: 22.05.2016	Jeanette Hofmann
Lecture/Talk: Online financial crimes and fraud committed with electronic means of payment	Specific legal challenges related to credit card fraud. Organised by European Academy of Law (ERA). Madrid, Spain: 24.05.2016	Adrian Haase
Lecture/Talk: Introduction to the App Economy in Europe and to the Entrepreneurial Research Lab at HIIG	Startup Clinics Talk: The App Economy in Europe. Organised by Progressive Policy Institute and Alexander von Humboldt Institute for Internet and Society. Berlin, Germany: 09.06.2016	Martin Wrobel
Lecture/Talk: The Mindful Firm	Lange Nacht der Startups. Organised by Telekom, IHK. Berlin, Germany: 03.09.2016	Martina Dopfer
Lecture/Talk: The role of applied research in our dynamic startup world of today using the example of the Startup Clinics at the Alexander von Humboldt Institute for Internet and Society	The MENA Innovation Summit on Job Creation and Entrepreneurship. Organised by BMWi – Federal Ministry for Economic Affairs and Energy. Berlin, Germany: 24.10.2016	Martin Wrobel
Lecture/Talk: European constitutionalism and national constitutions	International Colloquium on the Occasion of the 40th Anniversary of the Portuguese Constitution. Organised by Portuguese Association of Constitutional Law. Lisbon, Portugal: 14.11.2016	Ingolf Pernice
Roundtable: The Network of Networked Things: Finding the Internet in IoT	IGF 2016 – Internet Governance Forum. Organised by United Nations – Department of Economic and Social Affairs. Guadalajara, Mexico: 06.12.2016	Uta Meier-Hahn
Lecture/Talk: Report on the work of the Sub-Commitee on Intermediary Governance of the Council of Europe	IGF 2016 – Internet Governance Forum. Organised by United Nations – Department of Economic and Social Affairs. Guadalajara, Mexico: 09.12.2016	Wolfgang Schulz

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: What We Can Learn about Creativity from 3D Printing	33C3: works for me. Organised by Chaos Computer Club e.V. Berlin, Germany: 30.12.2016	Sascha Friesike
National scope		
Lecture/Talk: Informationen, Macht und das 'right to be forgotten'	Werkstattgespräch: Informationen, Macht und das 'right to be forgotten'. Organised by Staatsbibliothek zu Berlin. Berlin, Germany: 31.05.2016	Jörg Pohle
Panel: Privacy & Data Protection in Cyberspace – Domestic Legal Context	Conference: Transatlantic Dialogue on Cyberespionage, Surveillance and the Protection of Privacy in the Digital Age. Organised by Stiftung Wissenschaft und Politik (SWP). Berlin, Germany: 10.06.2016	Ingolf Pernice
Panel: Rendezvous mit der Zukunft: Zwischen Überwachung und Ungehorsam	Lange Nacht der Wissenschaften: Zuse, Zukunft, Zunder – die Große Wissenschaftsshow. Organised by Technische Universität Berlin. Berlin, Germany: 11.06.2016	Theresa Züger
Panel: Haters gonna hate?	Digitaler Salon. Berlin, Germany: 31.08.2016	Cornelius Puschmann
Lecture/Talk: The Art of Startup Customer Acquisition	Lange Nacht der Startups. Organised by IHK Berlin. Berlin, Germany: 03.09.2016	Martin Wrobel
Lecture/Talk: Digitale Transformation – Machen Sie Ihr Unternehmen/Geschäftsmodell zukunftsfähig	Lange Nacht der Startups. Organised by Deutsche Telekom and IHK. Berlin, Germany: 03.09.2016	Jessica Schmeiss
Lecture/Talk: Die Auswirkungen des Zweckbindungsprinzips auf Innovationsprozesse in Startups	DSRI Herbstakademie (Session: Datenschutzrecht). Organised by Deutsche Stiftung für Recht und Informatik (DSRI). Hamburg, Germany: 15.09.2016	Max von Grafenstein
Lecture/Talk: Empörungsnetzwerke, Open Science und Open Data: Wie Wissenschaft, Hochschul-PR und Datenjournalismus zusammenarbeiten können	Jahrestagung des Bundesverbands Hochschulkommunikation (Session: Datenjournalismus in der Hochschulkommunikation). Organised by Bundesverband Hochschulkommunikation. Göttingen, Germany: 15.09.2016	Julian Ausserhofer, Cornelius Puschmann, Noura Maan, Markus Hametner
Lecture/Talk: Digitale Identitäten im Dreiklang: Menschen – Technologien – Unternehmen	IDent-Tag. Organised by Deutsche Post AG. Bonn, Germany: 21.09.2016	Thomas Schildhauer
Lecture/Talk: Wie Achtsamkeit die Innovation fördert	deGut – deutsche Gründer- und Unternehmertage. Organised by Deutsche Gründer- und Unternehmertage. Berlin, Germany: 08.10.2016	Martina Dopfer
Lecture/Talk: Vorstellung der Startup-Benchmarking GER 2020: Globale Start-up-Ökosysteme – Wo steht Deutschland?	Zeit Wirtschaftsforum. Organised by Zeit. Hamburg, Germany: 03.11.2016	Thomas Schildhauer, Marcel Hebing
Discussion/Meeting: Vernetztes Lehren und Lernen – Wie viel Digitalisierung brauchen Bildungsmedien?	Conference: Bildungskonferenz – Digitaler Bildungspakt. Organised by Microsoft. Berlin, Germany: 09.11.2016	Thomas Schildhauer
Lecture/Talk: Welche Faktoren beeinflussen heute und morgen den Einsatz digitaler Lernsysteme?	Konferenz zum Digitalen Bildungspakt (Session: Trendmonitor berufliche Aus- und Weiterbildung). Organised by Microsoft Deutschland. Berlin, Germany: 09.11.2016	Thomas Schildhauer
Lecture/Talk: Brexit als Verfassungsproblem	Brexit als Verfassungsproblem. Organised by Notarverein NRW. Worms, Germany: 19.11.2016	Ingolf Pernice

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: Open Innovation	PLC-Forum (Session: Open Innovation). Organised by BSH Hausgeräte GmbH. Werder, Germany: 30.11.2016	Thomas Schildhauer
Participating expert	Hearing: Digitalisierung als Brücke im transatlantischen Verhältnis. Organised by Konrad-Adenauer-Stiftung. Berlin, Germany: 12.12.2016	Ingolf Pernice

SECURING AND DEVELOPING THE INSTITUTE'S WORK

1. Acquisition of additional institutional funding to extend the life-span of the institute

FUNDING 2015	BRIEF DESCRIPTION	FUNDER	DIRECTOR/RESEARCHER	TIME FRAME
1 500 000 €	Institutional funding	GFI/google		01.04.2012 – 31.12.2019
1 500 000 €				

2. Acquisition of project funding

FUNDING 2015	BRIEF DESCRIPTION	FUNDER	DIRECTOR/RESEARCHER	TIME FRAME
24 000 €	Development of Internet Entrepreneurship Research	google/GFI	Thomas Schildhauer	01.12.2012 – 29.02.2016
30 000 €	Funding of PhD candidate 'Finance Clinic' integrated in the HIIG doctoral programme	KPMG	Thomas Schildhauer, Robin P. G. Tech	01.07.2013 – 30.06.2016
14 000 €	Support on project: KORSE	University of Freiburg/ Federal Ministry of Education and Research (BMBF)	Ingolf Pernice, Emma Peters, Hannfried Leisterer, Sebastian Leuschner, Adrian Haase	01.07.2013 – 30.06.2016
57 000 €	Support on project: Wachstumskern dwerft – Verbundprojekt 5: Zukunftsforschung und Wissenstransfer; Erforschung zukünftiger sozialer und wirtschaftlicher Entwicklungen im A/V-Wirtschaftszweig	Federal Ministry of Education and Research (BMBF)	Thomas Schildhauer, Sascha Friesike, Urs Kind	01.03.2014 – 28.02.2017
19 000 €	Support on project: Wachstumskern dwerft – Verbundprojekt 4: Distributionstechnologien; Nutzerseitige Impulse zur Entwicklung von Geschäftsmodellen	Federal Ministry of Education and Research (BMBF)	Thomas Schildhauer, Sascha Friesike, Urs Kind	01.03.2014 – 28.02.2017
56 000 €	Support on project: Wachstumskern dwerft – Verbundprojekt 3: Rechtemanagement; Gesetzliche Voraussetzung für die Verwertung von Verwaisten Werken	Federal Ministry of Education and Research (BMBF)	Ingolf Pernice, Rike Maier	01.03.2014 – 28.02.2017
48 000 €	Support on project: User Innovation in the Energy Market	innogy Foundation for Energy and Society	Thomas Schildhauer, Hendrik Send, Matti Große	01.06.2015 – 31.05.2018
35 000 €	Support on the special keynote dialogue: 'Big data: big power shifts?'	Vodafone Institute for Society and Communications	Jeanette Hofmann, Frédéric Dubois	01.11.2015 – 30.04.2016
97 000 €	Support on project: Networks of Outrage	Volkswagen Foundation	Jeanette Hofmann, Christian Katzenbach, Julian Ausserhofer, Cornelius Puschmann	01.01.2016 – 31.03.2017
12 000 €	Support of 3 broadcasts Digitaler Salon Spezial	Medienanstalt Berlin-Brandenburg (mabb)	Karina Preiß, Larissa Wunderlich	01.05.2016 – 30.11.2016
100 000 €	Support on project: Internet of Things	Cisco	Thomas Schildhauer, Ingolf Pernice, Osvaldo Saldías, Christian Djeffal, Robin P. G. Tech	01.05.2016 – 30.04.2017

FUNDING 2015	BRIEF DESCRIPTION	FUNDER	DIRECTOR/RESEARCHER	TIME FRAME
59000€	Support on project: Kompetenzzentrum 4.0	Federal Ministry for Economic Affairs and Energy (BMWi)	Thomas Schildhauer, Martin Wrobel, Jessica Schmeiss	01.05.2016 – 30.04.2019
35000€	Support on the annual conference of the Association of Internet Researchers 2016 (AoIR 2016)	Deutsche Forschungsgemeinschaft (DFG)	Jeanette Hofmann, Wolfgang Schulz, Christian Katzenbach, Larissa Wunderlich	01.06.2016 – 30.11.2016
24000€	Support on project: Benchmarking of the Startup-System in the region Hamburg/ Berlin with ecosystems in Tel Aviv, London and San Francisco/Silicon Valley	Zeitverlag, NextMedia. Hamburg und Berlin Partner	Thomas Schildhauer, Marcel Hebing	01.06.2016 – 30.11.2016
15000€	Support on project: Internet Policy Review (IPR)	creatE	Jeanette Hofmann, Frédéric Dubois, Uta Meier-Hahn	01.07.2016 – 30.06.2017
30000€	Support on publication: Bildung und Wissen in einer Digitalen Gesellschaft	Federation of German Industries (BDI)	Wolfgang Schulz, Thomas Schildhauer, Karina Preiß, Benedikt Fecher	01.08.2016 – 31.10.2016
8000€	Support on project: Internet Policy Review (IPR)	European Union (FP7 post-grant OA publishing funds)	Jeanette Hofmann, Frédéric Dubois	01.10.2016 – 31.03.2017
10000€	Support on project: OPEN – Methods and tools for community-based product development	Deutsche Forschungsgemeinschaft (DFG)	Thomas Schildhauer, Hendrik Send, Robin P. G. Tech	01.10.2016 – 31.07.2017
19000€	Support on Project: Collaboration of Startups and Corporates	Spielfeld Digital Hub	Thomas Schildhauer, Martin Wrobel	01.10.2016 – 30.09.2017
692000€				

3. Acquisition of project funding

BRIEF DESCRIPTION	FUNDER	DIRECTOR/RESEARCHER	TIME FRAME
Funding of PhD candidate 'Open Science' integrated in the HIIG doctoral programme	German Institute for Economic Research (DIW Berlin)	Benedikt Fecher	01.09.2012 – 31.12.2016
Fellowship Benedikt Fecher	DARIAH-DE	Benedikt Fecher	01.09.2015 – 29.02.2016
Funding Stipend Program for Doctoral Students for a 7-month research period at the GovernanceLab at the New York University, NY	German Academic Exchange Service (DAAD)	Kirsten Gollatz	01.11.2015 – 31.05.2016
Funding of travel expenses Schumpeter Conference Canada	Social Science and Humanities Research Council of Canada	Matti Große	01.07.2016 – 31.07.2016

DANKE TEŞEKKÜR EDERIM **TODA** XIÈXIE **GRAZIE** HVALA **DANKON**
THANK YOU **MAHALO** KIITOS **GRACIAS** DANKIE **MERCI** OBRIGADA
KAM SAH HAMNIDA DHANYAVAD **SIYABONGA** MAURUURU **TAK**

Association of Internet Researchers (AoIR), Berlin Partner für Wirtschaft und Technologie, Berlin University of the Arts (UdK), Bundesverband der Deutschen Industrie (BDI), German Association for Small and Medium-sized Businesses (BVMW), Cisco, CREATe, German Academic Exchange Service (DAAD), DARIAH-DE, Deutsche Forschungsgemeinschaft (DFG), DRadio Wissen, dwerft, Factory, Federal Ministry for Economic Affairs and Energy (BMWi), Federal Ministry of Education and Research Germany (BMBF), FH Brandenburg, Foundation Internet and Society, German Institute for Economic Research (DIW Berlin), Google, Hans-Bredow-Institut for Media Research, Humboldt-Universität zu Berlin (HU), Hamburgische Gesellschaft für Wirtschaftsförderung mbH (HWF), innogy Foundation for Energy and Society (former RWE Foundation), Institut des sciences de la communication (ISCC), Internet Economy Foundation (IE.F.), Kooperative Berlin Kulturproduktion, KPMG, Leibniz Association, media.net berlinbrandenburg, Medienanstalt Berlin-Brandenburg (mabb), Next Media Accelerator, nextMedia.Hamburg, Open Access Infrastructure for Research in Europe (OpenAIRE), Social Science and Humanities Research Council of Canada, Social Science Research Center Berlin (WZB), Spielfeld Digital Hub (Roland Berger, Visa Europe), Telekom Innovation Laboratories (T-Labs), University of Amsterdam, University of Freiburg, University of Glasgow, University of Oldenburg, University of Potsdam, University of St. Gallen, Vodafone Institute for Society and Communications, VolkswagenStiftung, Zeitverlag

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