



# *encore*

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

VOLUME 2015





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## EDITORIAL

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

Not a day goes by without news about the digitalisation of our everyday life, its great promises but also its clashes with established norms and values. Are we ready for chips to be implanted under our skin? Do we embrace the idea of a decentralised digital currency? Will we be outperformed by the miracles of artificial intelligence and what can we expect from algorithmic regulation? Schumpeter's "creative destruction" challenges us to shed new light on all the things we usually take for granted and to ask ourselves how we can give direction to the ongoing processes of transformation that modern societies face. As an interdisciplinary research institute, the Alexander von Humboldt Institute for Internet and Society (HIIG) contributes in many ways to address these big questions.

First of all, the HIIG has established itself as an important node in a growing network of researchers in the area of Internet and society. In 2015, Julian Staben, one of our first PhD students, submitted his thesis; many more will follow him in 2016. In view of the completion of our first generation of doctoral students, we revised our research programme and placed greater emphasis on interdisciplinary and cross-divisional issues.

In addition to the Digitaler Salon, by now a well-established monthly discussion panel co-organised with DRadio Wissen, we organised a number of public and academic events. Among the first category was the Lunch Talk with Peter Thiel whose provocative ideas garnered a lot of attention. Towards the end of the year, we kicked off our new lecture series, co-organised with the Vodafone Institute for Society and Communication, on *Big data: big power shifts?*. We also had the pleasure of hosting two academic conferences; the annual Gikii meeting headed *Living in the future* and a meeting of the Sections *Computer-mediated Communication* and *Sociology of Media Communication of the German Communication Association* that addressed the dual dynamics of increasing and decreasing complexity in media and communication.

Last but not least, following an extensive search that put the patience of many people to the test, the HIIG signed a tenancy agreement for an excellent new office. Located in Französische Straße between the Foreign Office and the Tiergarten, it enables all HIIG staff members and their guests to work once again on the same floor. What impact will this architectural change have on our interdisciplinary research? We are looking forward to the outcomes in 2016!

A handwritten signature in black ink, appearing to read 'Julian Staben', with a large, stylized initial 'J' to the left.

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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.

Grounded in basic and applied research, the 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 – the Humboldt-Universität zu Berlin, the University of the Arts Berlin and the Social Science Research Center Berlin, in alliance with the Hans Bredow Institute for Media Research in Hamburg as an integrated cooperation partner – enable multilayer perspectives of the Institute by focusing on technological and legal perspectives, as well as on sociological, economical and artistic aspects.

# THE INSTITUTE'S LINEUP



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Internet-enabled Innovation



**Susanne Becker**  
Management



**Theresa Behrendt**  
Global Constitutionalism and the Internet



**Marie-Christine Dähn**  
Global Constitutionalism and the Internet



**Kevin Dankert**  
Internet and Media Regulation



**Martina Dopfer**  
Internet-enabled Innovation



**Frédéric Dubois**  
Internet Policy Review



**Jenny Fadranski**  
Management



**Benedikt Fecher**  
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**Kristin Franz**  
Management



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Internet Policy and Governance



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**Christian Katzenbach**  
Internet Policy and Governance



**Urs Kind**  
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**Felix Krupar**  
Internet and Media Regulation



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Theresa Züger  
Global Constitutionalism and the Internet

#### FELLOWS AND ASSOCIATES

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#### FAREWELL 2015

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## DO YOU TWEET?

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The institute's research directors were faced  
with a set of challenging questions

WE ASKED **JEANETTE HOFMANN** ...



**Is life without the Internet possible?**

I wouldn't want to give it a try.

**Is life without society possible?**

Depends on the number of deadlines!

**Is life without an Internet institute possible?**

What a depressing thought.

**Do we need a Federal Ministry for the Internet?**

Interestingly, some senior ministry officials support the idea.

**Do we already have a Federal Ministry for Internet?**

Perhaps but a bit of a stretch.

**Do you feel like you are living in an Internet society?**

Let's say I don't enter cyberspace any longer.

**Do you feel understood or misunderstood, when you talk about the Internet?**

Not while I am talking.

**Do you feel understood or misunderstood, when you talk about something other than the Internet?**

See above.

**Do you tweet?**

1,906 times in six years.

**If no, why not? If yes, why?**

Because I have opinions?

**Have you ever considered getting a fake facebook account, to become friends with your colleagues in order to see what they are doing there?**

No.

**If no, why not? If yes, why?**

Cannot think of any clever reason.

**Do you play games on your smartphone?**

Never, I enjoy Twitter so much more!

**Do we need more or less regulation of the Internet?**

Sadly, by now more.

**For the Internet society?**

Also for the Internet!

**More trust?**

Trust only for what is trustworthy.

**Are regulation and trust mutually exclusive?**

Not per se, depending on the regulation.

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*At HIIG Jeanette Hofmann heads the research department Internet Policy and Governance. At the Berlin Social Science Centre she heads the project group The Internet Policy Field. Furthermore she is honorary professor of Internet Politics at the Central Institute of Further Education at the Berlin University of the Arts.*

WE ALSO ASKED **INGOLF PERNICE** ...



**Is life without the Internet possible?**

Everything is possible. But certain things would be more difficult nowadays without the Internet.

**Is life without society possible?**

No, definitely not.

**Is life without an Internet institute possible?**

Life without the Internet would become more and more difficult. For making proper use of it we need to understand the Internet, and academic research helps to this effect.

**Do we need a Federal Ministry for the Internet?**

No, the Internet is not governed and should not be governed by a centralised institution like a national government or ministry. Internet policy is a global, multistakeholder issue, and governments are only one of those participating in framing it.

**Do we already have a Federal Ministry for Internet?**

In Germany, at least six federal ministries are responsible for the Internet: interior, justice, economics, transport, education and science as well as the foreign office.

**Do you feel like you are living in an Internet society?**

No, the Internet is an important tool and its impact is increasing, but only a part of our society can be called Internet society.

Even our smartphones do not make us an Internet society. Society is much more complex and comprehensive.

**Do you feel understood or misunderstood, when you talk about the Internet?**

On the surface, I feel understood. People have an understanding what the Internet is about, though the ideas are pretty diverse, depending on everybody's personal experience and digital literacy.

**Do you feel understood or misunderstood, when you talk about something other than the Internet?**

Yes, there are certain things whereby I can make myself understood, others are impossible to explain.

**Do you tweet?**

No, but I already have a number of followers. One day, when I have nothing better to do, I will start tweeting.

**If no, why not? If yes, why?**

Other people have more important things to communicate to the world. As soon as I have something relevant to say I will start with it.

**Have you ever considered, getting a fake facebook account, to become friends with your colleagues in order to see what they are doing there?**

No.

**If no, why not? If yes, why?**

If I need to know what my friends or colleagues are doing there, I'll ask or go and meet them. I leave surveillance to the NSA, they are better at that.

**Do you play games on your smartphone?**

No.

**Is there an international law for the Internet, or do we need one?**

We need common rules, for example on privacy, on net and data security on equal access to the net including net neutrality etc. This is not necessarily an issue for international law, but for Internet governance and a new form of global regulation.

**Do we need peoples?**

All depends upon what we mean with *peoples*.

—

*At HIIG Ingolf Pernice heads the research department Global Constitutionalism and the Internet. He is the director of the Walter Hallenstein-Institute for European Constitutional Law.*

We can assume that we have peoples, as a matter of fact. Also – as a matter of law – we have rights of the peoples, such as the right of self-determination of the peoples, embodied in the UN Charter. I think that the concept of peoples is changing according to the increasing mobility and communication worldwide. In a globalised world it loses importance while the concept of global citizenship is getting more important.

**A people of the Internet?**

I don't like this expression. What would be the implications? Too many misunderstandings or abuses of the term people exist, especially in connection with digitalisation – a technical development, the impact of which we are still unable to assess.

WE ASKED **THOMAS SCHILDHAUER** ...



**Is life without the Internet possible?**

Yes of course, but it would be less flamboyant.

**Is life without society possible?**

Once upon a time, in the stone age...

**Is life without an Internet institute possible?**

It depends...

**Do we need a Federal Ministry for the Internet?**

Maybe better an APP Ministry?

**Do we already have a Federal Ministry for Internet?**

Yes – a hidden one.

**Do you feel like you are living in an Internet society?**

If I'm in an area where WiFi or 4G is powerful: Yes. Otherwise...

**Do you feel understood or misunderstood, when you talk about the Internet?**

Depends on whom I'm talking to.

**Do you feel understood or misunderstood, when you talk about something other than the Internet?**

As I said, depends on whom I'm talking to.

Therefore it seems that in this case, the Internet isn't something special.

**Do you tweet?**

Sometimes.

**If no, why not? If yes, why?**

Only if I think I have something important to share. Otherwise, I try to act like in other situations of my life: sometimes it is better to shut up.

**Have you ever considered getting a fake facebook account, to become friends with your colleagues in order to see what they are doing there?**

No.

**If no, why not? If yes, why?**

I don't like fake accounts in any way, because it isn't fair.

**Do you play games on your smartphone?**

Yes.

**Why and what?**

It's fun. For example doodle jump.

**What is your favourite movie? Who is your favourite musician?**

Starwars. Enya.



**What's innovative about them?**

Lyrics, sound, and setting.

**More disruptive innovation?**

Disruption: I always welcome.

**Do you believe that the Internet  
needs more innovation?**

Define MORE ;-)

—

*At HIIG Thomas Schildhauer heads the research department Internet-enabled Innovation. At the University of Arts in Berlin he holds the chair for marketing with focus on electronic business.*

FINALLY WE ASKED **WOLFGANG SCHULZ** ...



**Is life without the Internet possible?**

Oh yes, I love intercontinental flights without wifi – quality time.

**Is life without society possible?**

Depends. Without society as a theoretical construct – no. Talking about real people is a different story, see question above.

**Is life without an Internet institute possible?**

Yes, but there would be no reason to live, would there? By the way: Not *an* institute, the question has to refer to the one and only HIIG.

**Do we need a Federal Ministry for the Internet?**

Someone trying to coordinate the activities of the government might really help. However, the cooperation under the digital agenda framework is a start.

**Do we already have a Federal Ministry for Internet?**

Yes, at least four of them.

**Do you feel like you are living in an Internet society?**

Only when the Internet connection is cut off. In other situations as referred to in the first question, you start feeling isolated.

**Do you feel understood or misunderstood, when you talk about the Internet?**

From time to time misunderstandings occur

because using the Internet is embedded in social practices and those practices differ. I might use a technology in a completely different way than my dialogue partner.

**Do you feel understood or misunderstood, when you talk about something other than the Internet?**

I often think about Niklas Luhmann's famous saying: "understanding is misunderstanding without understanding the *mis*". How true.

**Do you tweet?**

Not via Twitter.

**If no, why not? If yes, why?**

I still find it hard to define the fields where that mode of communication is really helpful; not too private but also not so official that misunderstandings could cause unnecessary trouble.

**Have you ever considered getting a fake facebook account, to become friends with your colleagues in order to see what they are doing there?**

Not so far but thanks for the hint.

**If no, why not? If yes, why?**

Frankly, I think I am not nosy enough.

**Do you play games on your smartphone?**

The last game was doodle jump until I felt my high-score limit was definitely reached.

**Are there different media on the Internet or is the Internet the medium?**

A good question to which there is one short and some very long answer. Short: it's a technical medium on which we find various different types of media on the application level.

**Is the Internet as a medium hierarchical or nonhierarchical?**

The whole point about the technical medium is that it is nonhierarchical in terms of end-to-end-equality. That does not mean to say that there are no hierarchical structures associated with the Internet, there are many of those.

**Are hierarchies necessary or unnecessary for communication?**

Successful communication definitely requires some standards – technical as well as ethical – that cannot be negotiated in each act of communication. Insofar

hierarchies are unavoidable. However the Internet makes it easier to switch from the discourse about content to the discourse about standards of communication.

**Do you comment on media articles on the Internet or do you write your own articles?**

Interesting that you ask. Today was the first time for me to give feedback to a Spiegel Online article. It was about the British Minister of Justice criticising a UN panel finding that Julian Assange's circumstances amount to "arbitrary detention". The Minister stated that the UN report was ludicrous because the panel did not consist of lawyers. I did not tick the box *Do you consent to publish this feedback* and I am still not completely sure why. I think I want to give the journalists an opportunity to learn before I criticise them in public. And on the subject matter, the Minister is right of course – how can there be expertise without lawyers. ;-)

—

*At HIIG Wolfgang Schulz heads the research department Internet and Mediaregulation. He holds the chair for Media Law and Public Law including Theoretical Foundations at the Faculty of Law at the Universität Hamburg.*



## AS AN INTERNET RESEARCHER, WHAT KIND OF PERSONALITY ARE YOU?

### THERE IS A CONFERENCE COMING UP. WHAT WOULD INTEREST YOU THE MOST?

- A A three hour introduction keynote about emerging changes in norms.
- B The world cafe on what types of data ownership there are and what business models emerged from it.
- C I skip the conference and watch the most interesting talks online.

### YOU COME HOME AFTER A STRESSFUL DAY. HOW DO YOU SPEND THE EVENING?

- A Reading *The Society of Mind* the fourth time, reflecting upon human decision-making.
- B Meeting a bunch of old friends and making new ones at a bar.
- C Watching YouTube documentaries till sunrise.

### WHAT COMPLIMENT WOULD PLEASE YOU MOST?

- A "I think you are the new Max Weber."
- B "I admire how you organise everything accordingly to Network Theory in your apartment!"
- C "You are as smart as Google!"

### THE IDEAL RELATIONSHIP CONSISTS OF ...

- A Deep conversations about God, the world, and the Internet.
- B Making the most of each others friends.
- C Sharing everything – including passwords.

### YOUR SIGNIFICANT OTHER IS FLIRTING WITH SOMEONE ELSE AT A PARTY. WHAT THOUGHTS ARE CROSSING YOUR MIND?

- A Is this some kind of a structural change?
- B What's my relationship to my significant other?
- C Does that someone know that s/he is with me?

### WHAT'S THE FIRST WEBSITE YOU VISIT IN THE MORNING?

- A The bulletin of the European Commission to see if any significant societal change is coming our way.
- B Wired.com to learn about the latest failed startups and celebrities.
- C YouTube.com to watch School of Life and SciShow MOOCs.

### WHAT'S PART OF YOUR MORNING ROUTINE?

- A Search for the wire-rimmed glasses, trim the full beard and have a black coffee and Gauloises in the café around the corner.
- B Sorting last night's business cards, grabbing a soy latte and rushing towards the office.
- C Reading Le Monde Diplomatique online with a fresh smoothie.

### WAS A, B OR C YOUR MOST COMMON ANSWER?



- A **The thinker.** You like to reflect on societal changes and theoretical debates. You prefer to keep track from the sidelines. You are the perfect match for our research programme: *The evolving digital society: What are relevant concepts and theoretical approaches?*



- B **The cartographer.** You connect the dots and question how different parties interact with each other. You also like to look below the surface of the Internet. You are the perfect match for our research programme: *The relationship between actors, data and infrastructures in the digital society: What are key factors of change?*



- C **The explorer.** You consume knowledge like a vacuum cleaner. For you, knowledge belongs to and is created by everybody. You are the perfect match for our research programme: *The knowledge dimension: What are emerging patterns of research and knowledge transfer in the digital age?*

THE HUMBOLDT INSTITUTE FOR INTERNET AND SOCIETY 2015 IN NUMBERS

Different nationalities working together at the institute . . . . .	13
Number of employees . . . . .	49
OS X . . . . .	37
Windows . . . . .	17
Other operating systems . . . . .	6
Completed doctoral theses . . . . .	1
Doctoral theses in progress . . . . .	19
Events organised by the institute . . . . .	62
Number of participants . . . . .	2 996
Real estate brochures read until the move into the new building . . . . .	238
Offices visited . . . . .	39
Books delivered to the Internet institute . . . . .	109
Printed books published by the Internet institute . . . . .	9
Single-sided printed pages . . . . .	69 570
Coffee beans processed in kg . . . . .	55.5

## RESEARCH FELLOWS 2015

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



The moments when Berlin sucks.



I wish I was...



Where I spent most of my working hours.



My Kiez, my castle.



What you don't know about me.



My highlight as HIIG-Fellow.

**FARZANEH BADIEI**

# JONAS KAISER

I wish I was...

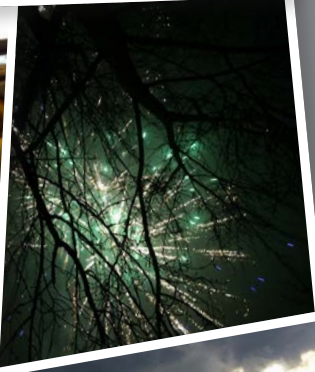


Where I spent most of my working hours.



The moments when Berlin sucks.

My Kiez, my castle.



What you don't know about me.



My highlight as HIIG-Fellow.

I wish I was...



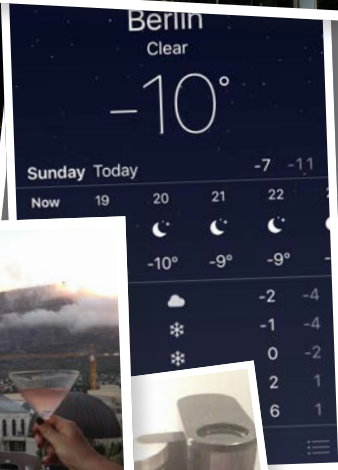
Where I spent most of my working hours.



My Kiez, my castle.



What you don't know about me.



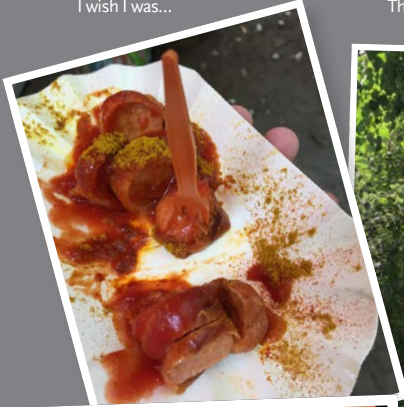
The moments when Berlin sucks.



My highlight as HIIG-Fellow.

**REBECCA KAHN**

I wish I was...



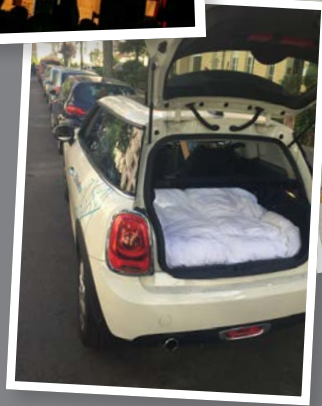
The moments when Berlin sucks.



Where I spent most of my working hours.



What you don't know about me.



My Kiez, my castle.



My highlight as HIIG-Fellow.

# SEBASTIAN SCHWEMER

## 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 2015 RESEARCH FELLOWS

**Jonas Kaiser** | Germany | Chair of Political Communication, Zeppelin University, Friedrichshafen

**Rebecca Kahn** | South Africa | Department of Digital Humanities, King's College, London

**Farzaneh Badiei** | Iran | Institute for Law and Economics, Universität Hamburg

**Sebastian Schwemer** | Germany | Centre for Information and Innovation Law, University of Copenhagen

**THERESA ZÜGER**

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Three ways of understanding civil  
disobedience in a digitised world

The idea of the digitalisation of civil disobedience appears to be a straightforward concept. But in fact, behind the semantic facade, it's rather messy. It combines very different types of action, that range from distributed denial-of-service (DDoS) actions to actual hacking, from parodistic websites or web defacements to whistleblowing or counter surveillance measures and various others. Digital disobedience – like civil disobedience in general – turns out to be a quite contested concept. Not only is there a wide range of practices to talk about, there are also different understandings of civil disobedience that make it even more challenging to come to a common discourse. Through the lenses of different disciplines, there are quite different angles to approach this topic. This article aims to sketch out three dominant approaches to understanding the digitalisation of civil disobedience: first, by understanding it as a social practice, second, by deploying a narrow definition of civil disobedience to digital actions and third by applying a comparably wide definition of civil disobedience.

The first approach is to look at digital tactics of disobedience as a social practice. This approach is so far the most prominent and is mostly applied among disciplines such as sociology, anthropology or social movements studies, which were also the first to pay attention to the emergence of new forms of digital disobedience. Their empirical approach describes new types of digital actions, researching their internal logic

but at the same time framing them according to the established concepts of protest and dissidence in this research field. The key term to describe digital disobedience as a social practice is the concept of hacktivism.

Remarkably, from this empirical perspective, digital disobedience or electronic civil disobedience (as it was called by the Critical Art Ensemble, who were often viewed as the progenitors) is not treated as an independent concept. Many definitions and implicit assumptions often frame it as a subcategory of hacktivism or even use both concepts interchangeably. In Dorothy Denning's (2001, p.263) view "Hacktivism is the convergence of hacking with activism [...] Hacktivism includes electronic civil disobedience". Hacking is thereby seen as the pursuit of technological mastery as an end in itself, whereas hacktivism introduces a new kind of political objective. In his article *Mapping Hacktivism*, Tim Jordan (2001, p.8) views electronic civil disobedience as a certain type of hacktivism, which he calls Mass Virtual Direct Action, describing it as the "simultaneous use, by many people, of the Internet to create electronic civil disobedience".

Researching digital disobedience as a social practice reveals a wide range of insights about the new performative paradigms, different motivations and cultures behind these actions, and new modes of collectivity. For some digital activists, the use of technologies for protest turns out to be more than a

toolbox; it constitutes part of their lives and identities. The actual practices of digital disobedience are one key to coming to terms with what civil disobedience might be in a digitised world. Nevertheless, the idea of electronic civil disobedience is inspired by established practices associated with civil disobedience – such as sit-ins – rather than by a philosophical understanding of civil disobedience. The question of whether and how new practices of digital disobedience can be understood in the tradition of philosophical thought about civil disobedience is a different question that comes into play.

The second approach is to look at digital practices of disobedience with a set of criteria as a narrow definition of civil disobedience. This fixed set of criteria, which defines civil disobedience quite narrowly, is mainly inspired by what is known as a liberal understanding of civil disobedience. This understanding was most prominently introduced by John Rawls in *A Theory of Justice* – where Rawls discusses justice within the framework of an ideal theory of a democratic state. He understands civil disobedience as an exception occurring in a well ordered or nearly just society that is otherwise built on the duty of citizens to obey the law.

Rawls (1971, p. 320) defines civil disobedience as “a public, nonviolent, conscientious yet political act contrary to law usually done with the aim of bringing about a change in the law or policies of the government”. In his understanding civil disobedience is a symbolic appeal to the “sense of justice of the majority”, carried out in “the limits of fidelity to law” which for instance means that the dissident should willingly accept a possible penalty.

An example that applies this definition to digital action was given by Evgeny Morozov in a series of articles, one of which was called *In Defense of DDoS*. In general he argues that “DDoS attacks can be seen as a legitimate expression of dissent, very much similar to civil disobedience”. Also, regarding the case of the Paypal 14, he claims that the DDoS actions by Anonymous fit Rawls defining criteria – except for one: Anonymous didn’t intentionally reveal the identities of individual actors and thereby didn’t accept the legal consequences of the action. Through the lenses of liberal theory, this action does not promote a fidelity to law – and therefore Morozov concludes that these actions cannot be seen as civil disobedience.

Whether one agrees with Morozov or not, the liberal perspective on new forms of digital disobedience leads us to many open and interesting questions: Given all technical restrictions to actual anonymity, can legitimate civil disobedience take place anonymously at all, and if yes, under what conditions? What kind of communicative efforts should be taken to address the public for an action to be a permissible digital act of civil disobedience? And what do we mean exactly by public in a digital context for civil disobedience?

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## THIS IS AN ARTICLE BY **THERESA ZÜGER**

This article is a shortened version of the introduction Theresa Züger gave at the international, interdisciplinary workshop *Civil Disobedience Beyond the State II: The Digitalisation of Disobedience from Whistleblowing to Anonymous* and was published on 19 June 2015 on the HIIG blog. Theresa Züger is a doctoral researcher, focusing on Digital Civil Disobedience. At the Humboldt Institute for Internet and Society she is part of the research department Global Constitutionalism and the Internet.

## **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.

Another arising issue is what cases of digital disobedience can teach us about the relationship between civil disobedience and the law. If civil disobedience is presumed to express fidelity to the rule of law what do we think about cases in which the civilly disobedient agents are under different or overlapping jurisdictions, so that it is unclear which law the agent is supposedly expressing fidelity to?

The third approach is to look at digital practices of disobedience with a wide definition of civil disobedience. This approach depends on a different understanding of civil disobedience, one that is less restrictive compared to the liberal concept regarding the criteria for definition. In this second tradition of thinking about civil disobedience, often called a radical democratic approach, Robin Celikates proposed a minimal understanding of civil disobedience. He suggests thinking of civil disobedience as “an intentionally unlawful and principled collective act of protest (...) that (...) has the political aim of changing (a set of) laws, policies, or institutions” (Celikates, 2016).

According to this notion neither the criteria of non-violence or publicness, nor the idea that disobedient actors are required to accept their punishment, plays a role in defining something as civil disobedience. For the discussion about the justification of an act of civil disobedience at least the first two points certainly do matter. But compared to the liberal approach, these acts are evaluated in a more general discussion on how compatible with democracy a concrete act of civil disobedience is in its specific context and how democratically it is enacted in itself.

There are quite a few actions that fall into this definition of digital acts of civil disobedience, like these three examples:

A first example is the so called BTX Hack. This was a protest action in 1984 against a service of the Deutsche Post called Bildschirmtext. Wau Holland and Steffen Wernery, two founders of the Chaos Computer Club (CCC), who found the BTX system to be insecure, transferred 135,000 DM from an account held by a Hamburg-based bank to the account of the CCC. They returned the money and explained the reasons behind their actions to the public (during the news on television). It took until 2001 for this service to be replaced, but ever since, the CCC has been respected as a group of experts on IT Security.

A second example is known as the ITAR Civil Disobedience. In 1995, as part of a broader conflict often referred to as the Crypto Wars, the Cypherpunks encouraged civil disobedience against a U.S. law on the export of cryptography. Until 1996, as far as export restrictions were concerned, cryptographic code had the same legal status as munitions, and until 2000 export required a permit. They coded a small crypto-algorithm for public-key cryptography and suggested that people spread it across borders as an email signature file or print it on a T-shirt when crossing borders.

A third case is the Grey Tuesday. This act of protest defended a remix album called the Grey Album by DJ Danger Mouse, which combined the White Album by the Beatles with the Black Album by JC. The record company EMI prohibited the distribution of this album. In February 2014 the non-profit organisation Downhill Battle organised a collective act of civil disobedience to protest against the copyright doctrine that excludes music sampling from the fair use policy. In this act of civil disobedience 170 websites participated by offering the Grey Album for download – and about 100,000 downloads occurred that day.

But even if we take this wide definition as a baseline, there are also a lot of cases that remain in a somewhat grey area that require a deeper discussion. These include individual hacks and also DDoS actions (even though my objections would be different than those introduced by Morozov). Also, whistleblowing is seen as a type of civil disobedience for good reasons but organisations or actors in this field barely use this concept and some even reject it. One might argue that actors like Assange, Manning and Snowden stand for a new form of political action (other than civil disobedience) that should also be recognised by political theory as something new: as acts of citizens of democracy (Lagasnerie, 2015).

Bearing these difficulties around the concept of digital disobedience in mind, one might ask: Why should we keep using the term civil disobedience in the context of digital action and in general? What do we gain by referring to this concept, if there seems to be no common definition and application? Even different activist groups position themselves very differently in relation to the concept of civil disobedience, from total rejection to strategic use or entirely new conceptualisations. Why shouldn't we simply stick to the terms *whistleblowing* or *hacktivism*?

The concept of civil disobedience may be fuzzy, the practices hard to pin down and its justifiability a controversial issue for each case that arises. But it is precisely this controversial nature, in combination with a rich connection to democratic theory, that lends it some strengths:

Firstly, there might be no general agreement on how to define civil disobedience exactly but there is a widespread agreement that such a thing as civil disobedience exists and that it has a value for human society, even though it means to intentionally break a law (which is pretty amazing). Secondly, the actions referred to with concepts such as hacktivism and also whistleblowing have some overlap with civil disobedience, but they do not always imply breaking a law, nor do they introduce the same rich tradition of thought that civil disobedience involves to evaluate this delicate type of political action from a democratic perspective. In the end, the fact that civil disobedience is an intrinsically ambiguous concept keeps contestation going and this gives new reasons for public debate and redefinition. Despite its contestation (or even because of it), the

term civil disobedience can be seen as a marker for public debate. It deserves attention for being a very special type of protest because of the risk actors are willing to take for their cause, in the interest of a common world.

After all, civil disobedience is in essence a dynamic concept, which is a pretty good thing for a concept that is intended to stay meaningful, in a world moving as fast as ours. ♦

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A close-up photograph of a cow's nose and mouth, viewed through a wire fence. The cow's nose is large and pinkish, with a textured, wrinkled surface. The mouth is slightly open, showing the tongue. The background is a blurred green field and a grey sky.

## BENEDIKT FECHER

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Seizing the moment - is our understanding  
of open access too shortsighted?



In November 2015 the entire editorial board of the journal *Lingua* quit and announced they would launch a new journal named *Glossa*. *Lingua*'s executive editor Johan Rooryck said the reason for the resignation was that Elsevier, which publishes *Lingua*, did not comply with the editors' request to turn the journal into an open access publication. *Lingua* has existed since 1949 and is among the top-3 linguistic journals on Google Scholar. The *Lingua/Glossa* case is a good opportunity to reflect upon our understanding of open access.

Broadly speaking, open access means that research outputs, such as articles and data, are free of restrictions on access and free of restrictions on use. The call for open access for articles is often justified by the fact that essential parts of the scientific publishing process, for example writing an article and reviewing it, are completed by the scientific community. Nonetheless, most of the research – that is to a large degree financed by public funds – is hidden behind paywalls. This situation is aggravated by the fact that libraries are increasingly struggling with high license fees for journals and debatable package deals, while publishing houses like Elsevier, Wiley or Springer are returning high profits. To put it provocatively: The costs to access research outputs are being paid twice by taxpayers. Firstly by the

researchers who produce the articles and then by the libraries that purchase the articles. The discussion about open access is understandably heated. Publishers argue, on the other hand, that revising articles and organising the publication process costs money. Moreover, their journals fulfill an important curation task in an increasingly confusing publication landscape. The latest report by the STM Association counted 28,000 peer reviewed journals that publish more than 2.5 million articles per year (Ware & Mabe, 2015). The report also states that the number of articles has continuously increased for more than two centuries. For researchers, it has become more and more difficult to identify quality in the jungle of articles. Established journals provide orientation. This is certainly right. Research funders, research associations, institutes and universities alike have developed open access strategies, proving that the demand for open access is no longer an idealistic one. Just this month, representatives from the leading Austrian research organisations announced that all publications financed with public funds will be available online without restrictions by 2025. It is common sense by now that scientific output should be freely available online. With new online distribution channels, the traditional mediator role of scientific publishers has come under scrutiny as the *Lingua/Glossa* case shows.

#### DOES OUR THINKING ON OPEN ACCESS EXTEND FAR ENOUGH?

Looking at the mindset of many academic researchers and at initiatives undertaken by research organisations, one could question if our understanding of open

access in the academic community goes far enough. Often researchers believe that open access publications are of a lower quality – a belief that is of course

not justified but frequently perpetuated by established publishers. This is slightly paradoxical, since many publishing houses offer the golden road to open access. Here journals make their articles openly accessible immediately upon publication for a ransom, the so-called article processing charge, or APC. Some communities also offer the renowned working paper series that are published under open access licenses online and without the traditional peer review. The belief that publishing under an open access license is still a less prestigious way of publishing may be owed to the high number of dubious open access journals that have been mushrooming in recent years. These predatory journals charge high publication fees to authors without providing the editorial and publishing services legitimate journals offer. Researchers that do not deal with this topic are having trouble separating the wheat from the chaff (Bohannon, 2013). So they stick with their well-known journals. Looking at the open access initiatives undertaken by many research funds, one could get the impression that the job is done by simply establishing publishing funds. These funds can be used to cover the costs of golden open access. As an illustration: for *Lingua*, this opt-in for open access costs \$1,800, which is average. Many golden open access models represent a redistribution of costs that is still to the detriment of academia. Publishing funds are indeed useful to make single articles from relevant journals available to everyone. They are, however, an insufficient response to the urgent question of how the scientific community should manage the access to its outputs in an increasingly digitised society. It is for the researchers' conservatism on the one hand and the research organisations' passivity on the other hand that open access mimics a business model rather than a sustainable strategy to organise knowledge in the 21st century. Our understanding of open access in the scientific community is too short-sighted.

## OPEN ACCESS AND INNOVATION

With increasing digitisation, the way research is conducted, communicated and critiqued has changed. Open access also means rethinking the way the publishing process is organised and how quality can be identified. One vivid example for a more digitally savvy way of publishing are mega journals such as PLOS ONE. PLOS ONE is more of a platform than a single journal. It is multidisciplinary, open access and has no limit on the number of articles it publishes. In fact, by number of articles, PLOS ONE is by far the biggest journal worldwide. Articles on PLOS ONE are published after a basic review for scientific soundness. The scientific community then evaluates an article through citations, but also through shares on Twitter and Facebook. Furthermore, PLOS ONE has a far-reaching data availability policy and shows how often data has been used on figshare, an online data repository. Even though PLOS ONE has no limit on the number of articles it publishes in a month and is rather focused on article-based metrics, it has quite an impressive journal impact factor (3.234 in 2014). PLOS ONE is financed by article processing charges. Established publishing houses are also investing in the mega journal model, for example O'Reilly with PeerJ or Macmillan with Scientific Reports. Mega journals take into account

a form of research that is faster moving, increasingly multidisciplinary and whose impact is not necessarily accessible prior to a publication. The trimmed-down review allows for articles to be published faster than with the traditional review model. When it takes several years from the submission of an article to its publication, one can indeed question if the old review model is still *zeitgeisty* enough. In comparison to the established journal models, the review process of mega journals fulfills more of a scrutinising role than a curating one. One can indeed also look critically at the mega journal model; however, they do at least try to shake the dust off traditional methods by implementing newer and faster mechanisms to identify quality. They are furthermore a home for research that cannot be defined by a single discipline, which is important in times when research problems are increasingly multidisciplinary and require collaborative effort. PLOS ONE and the other mega journals do not understand open access solely as the access to articles; they understand open access also as a way publishing can be organised and presented in a digital age.

#### OPEN ACCESS AND INFRASTRUCTURE

The market for scientific publishing is undergoing a similar process as other industries did with digitisation, such as the newspaper. Old players position themselves anew (e.g. newspapers test new content formats and payment models), new players emerge (e.g. clickbait-journalism) and less strong players disappear (e.g. print crisis). In the realignment of market players for scientific publishing, academia has to be careful not to come out empty-handed. Looking at the innovative players in online publishing, one can see that many have a commercial background. In an interview with irights, Lambert Heller from the Open Science Lab of the German National Library of Science and Technology pointed to the market power of startups and traditional publishers that invest cleverly in digital information infrastructure. This, according to Heller, applies not only to online journals but also to social networks for researchers, such as ResearchGate and academia.edu, reference managers such as Mendeley, and code and data repositories such as figshare and github. The historian Philip Mirowski even sees a 'neoliberal project' in the overall development. With respect to the formation of new players in the market for scientific publishing, Lambert Heller poses the question: how free does academia want its operating system to be? One does not have to go so far as to describe the development in online publishing as a purely neoliberal project. What is true, however, is that many critical nodes in the digital information infrastructure are already occupied by commercial players. Of course, this is not necessarily a bad thing. However, past experiences, including the unhealthy dependence on publishers such as Elsevier, should make academics take an even more critical stance. In this regard, open access is also a question of who owns the critical information infrastructure for online publishing or – put differently – which parts of its value creation academia wants to outsource this time. If there is a reorganisation of the market for scientific publishing, why should academia not play a more prominent role?

## LINGUA/GLOSSA AS A ROLE MODEL FOR OTHERS?

This is where the Lingua/Glossa case comes into play again. The resignation of Lingua's editorial board and its reorganisation in the to-be-founded journal Glossa could get the ball rolling, and other journals could follow the example. The outlook for Glossa is good. For the first five years, the journal will be completely free for readers and authors thanks to funding from the Netherlands Organisation for Scientific Research and the Association of Dutch Universities (the German Research Association also supports the launch of open access journals in its programme *Infrastruktur für elektronische Publikationen und digitale Wissenschaftskommunikation*). According to a Facebook post by Rooryck, the article processing charge for golden open access will not be higher than 400€. If that holds true, the APCs will be reduced significantly compared to the \$1,800 at Lingua. The organisation of content – from the production of articles, to the peer review, to the publication – remains in the hands of academia. Perhaps equally important is the fact that the former editorial board of Lingua will regroup in the new journal Glossa. One of the biggest issues for new journals is to build up a reputation. At Glossa, the good reputation is there from the outset. This combination of public funding, low APCs, self-organisation and community backing already seems a promising model for open access. If not a call for rebellion, the Lingua/Glossa case shows at least quite plainly that the negotiations about the costs of access are reopened. It also reminds us that open access means more than just the access to an article; it means rethinking the whole process of publishing. The scientific community now has the chance to (at least to some extent) free itself from its path of dependence and to rethink publishing in a digital society (Schimmer et al., 2015). Glossa could lead by example.

By the way, *Lingua* means tongue in Latin. *Glossa* means tongue in ancient Greek. In Glossa's case, one could say the naming is meant symbolically. ♦

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## THIS IS AN ARTICLE BY **BENEDIKT FECHER**

This article was published on 18 November 2015 on the HIIG blog. Benedikt Fecher is a doctoral researcher 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.

**SASCHA FRIESIKE ET AL.**

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Reputation instead of obligation: forging new  
policies to motivate academic data sharing

Despite strong support from funding agencies and policy makers academic data sharing sees hardly any adoption among researchers. We argue that academia is a reputation economy in which researchers are motivated by reputational gains. Current policies that try to foster academic data sharing fail, as they try to either motivate researchers to share for the common good or force researchers to publish their data. Instead, we argue, data sharing needs to pay in the form of reputation. Hence, in order to tap into the vast potential that is attributed to academic data sharing we need to forge new policies that follow the guiding principle of reputation instead of obligation.

In 1996, leaders of the scientific community met in Bermuda and agreed on a set of rules and standards for the publication of human genome data. What became known as the Bermuda Principles can be considered a milestone for the decoding of our DNA. These principles have been widely acknowledged for their contribution towards an understanding

of disease causation and the interplay between environmental factors and genetic predisposition (Venter, 2001). The principles shaped the practice of an entire research field as it established a culture of data sharing. Ever since, the Bermuda Principles have been used to showcase how the publication of data can enable scientific progress. Considering this vast potential, it comes as no surprise that open research data finds prominent support from policy makers, funding agencies, and researchers themselves (National Institute of Health, 2015; National Science Foundation, 2013). However, recent studies show that it is hardly ever practised (Tenopir et al., 2011; Andreoli-Versbach & Mueller-Langer, 2014). We argue that the academic system is a reputation economy in which researchers are best motivated to perform activities if those activities pay in the form of reputation. Therefore, the hesitant adoption of data sharing practices can mainly be explained by the absence of formal recognition. And we should change this.

#### USEFUL BUT HARDLY PRACTICED

The research landscape today is characterised by a collaboration imperative (Bozeman, 2014). Research questions are getting increasingly complex, and a number of specialists need to be brought together to perform a noteworthy investigation. Only a few fields remain that still allow lone investigators to develop meaningful insights (Wuchty et al., 2007). The most prominent form

of collaboration is the co-authored publication. However, there is further potential for scientific collaboration in the form of more modular collaboration practices: academic data sharing. Here, researchers make their primary datasets available to others. This has three major benefits: first, it allows the asking of new research questions within existing datasets, second, it facilitates the





replicability of research results, and third, it enables new research practices such as large scale meta-analyses. Combined, open data in research contributes to the quantity, quality, and pace of scientific progress. Neelie Kroes, the European Commissioner for the Digital Agenda even went so far as to say, that open access to research data “will boost Europe’s innovation capacity and give citizens quicker access to the benefits of scientific discoveries” (Kroes, 2012). Despite its advantages and prominent support data sharing sees only hesitant adoption among research professionals. In autumn 2014, we conducted a survey questioning 1,564 academic researchers. 83% agreed that making primary data available greatly benefits scientific progress (Fecher et al., 2015). Yet, only 13% stated that they had published their own data in the past. In a similar way most journals disregard the vast potential of published data. In an analysis of 141 journals from economics, Vlaeminck (2013) found that only 29 (20%) had a mandatory data sharing policy. Alsheikh-Ali et al. (2011), in an analysis of 500 research articles from the 50 journals with the highest impact factor, found that the underlying data was only available in 47 (9%) cases. In most journals publishing data is neither expected nor enforced in order to get published. This is particularly troublesome when inaccurate or incorrect scientific findings are used to make political decisions – as happened in the Reinhart and Rogoff case, where false statistics justified the introduction of austerity policies (Herndon et al., 2014). In this regard, open access to research data is not only a driver for scientific progress but also crucial for reproducibility and therefore trust in scientific results. Its meagre adoption among research professionals points to the need for new policies to motivate more academic data sharing.

#### ACADEMIA IS A REPUTATION ECONOMY

Making data available to others is of little benefit for a researcher. Academia can be described as a reputation economy in which the individual researcher’s career depends on recognition among his or her peers. The commonly accepted metrics for academic performance (the journal citation index, the Hirsch index, and even altmetrics) are all based on research article publications. Data sharing, by contrast, receives almost no recognition. As a result, researchers are geared solely towards article publications as they invest their time and resources into activities that can increase their reputation. 80% of the respondents in our survey state that the main barrier to making data available is the concern that other researchers could be published with it. At the same time, 76% agree that researchers should generally share their data publicly. Few researchers 12% are concerned about being criticised or falsified. These numbers show that researchers have no negative attitudes towards making data available nor are they afraid about being proven wrong. They largely recognise the potential of open access to research data. However, that does not motivate them enough to invest their time and resources into sharing their own data. This and the lack of journals that foster data sharing has led to a culture in which only a minority group, consisting of Open Access

enthusiasts, publishes primary data (Andreoli-Versbach & Mueller-Langer, 2014). Today's low sharing culture reflects our academic reputation economy, in which most of one's community standing comes from article publications. We therefore believe that data sharing and reuse will only become a standard practice if it pays in the form of recognition. Policies addressing data sharing need to understand academia as a reputation economy in order to work.

#### WHY CURRENT POLICIES FAIL

Current policies concerning data sharing mainly fall into two camps: they either try to motivate data sharing intrinsically by invoking the common good or they force researchers to share with mandatory sharing policies. Motivating researchers to share data for the common good fails as it is not in line with the incentives of the reputation economy (Nelson, 2009). Most researchers choose to invest their resources into activities that better contribute to their reputation. Consequently, debates around data sharing often focus on mandatory data sharing policies. They are embraced by funding agencies, such as the National Institutes of Health (NIH) in the U.S. and the Horizon 2020 programme in the European Union, alongside journals like Nature or PLOS ONE. Without a doubt, mandatory data sharing policies increase the number of shared datasets. However, this does not happen because researchers are motivated to do so but because it is a necessary evil to get to something else: research grants or journal publications. And this comes with a major drawback: if data sharing is mandatory, researchers only invest the minimum time necessary to share. This in turn leads to badly labelled variables, poor documentation, and datasets that are hard to find. An empirical assessment of 18 published research papers of microarray studies showed that only 2 of them could be perfectly reproduced. In some cases it took months to reproduce a single figure (Ioannidis et al., 2009). Mandatory data sharing policies lead to a situation that makes the reuse of datasets difficult, the core reason why data sharing is advocated in the first place. To develop a culture of prolific data sharing and reuse, policy makers, funding agencies, and research organisations need to value the publication of data, it needs to pay in form of reputation.

#### WHAT APPROPRIATE POLICIES COULD LOOK LIKE

We need a measure that indicates the importance of a dataset. Such a measure could be analogous to the citation count, which indicates the impact a research article had in the scientific community. A measure for shared data should count publications that used a dataset (e.g. by tracking DOIs). Researchers could thus gain reputation by publishing data that gets used. And researchers could indicate their importance to a field by the number of research articles they made possible based on their published datasets.

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THIS IS AN ARTICLE BY **SASCHA FRIESIKE, BENEDIKT FECHER, MARCEL HEBING AND STEPHANIE LINEK**

This article was published on 26 May 2015 on the HIIG blog. At the Humboldt Institute for Internet and Society Sascha Friesike leads the research group Internet-enabled Innovation and one of its main research projects Opening Science. Benedikt Fecher and Marcel Hebing are doctoral candidates associated both with the HIIG and the German Institute for Economic Research. Stephanie Linek is a researcher at Leibniz Information Centre for Economics.

## **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.

Funding agencies should take this measure into account and privilege scientists or research groups that have a track record of distinguished datasets. By switching their policies from mandatory sharing to rewarding good datasets, funding agencies could motivate researchers not only to share but to share in a more reusable fashion. Research communities could do more for the recognition of good datasets. Best paper awards are commonplace at conferences, in journals, and in research fields. They are welcome signs of good work that researchers use to indicate their value. Good datasets need to receive similar forms of recognition to justify the work necessary to make them publicly available in a reusable form.

And lastly, journals need to take the issue more seriously. Data journals like Nature's Scientific Data are a good first step, but need to gain impact in order to motivate the mainstream researcher to publish with them. Established journals could instead add a data section and publish descriptions of noteworthy datasets together with their scope of application. In doing so, journals could perform the magic trick of transforming datasets into a currency researchers are used to. Given the constant increase in complexity of many research fields, more collaboration is desperately needed. Data sharing is a form of collaboration that is worthy of our support. It is currently a desirable practice that is having a tough time gaining traction. It is like the electric car that everyone knows is good for the environment but nobody wants to buy. It is important in the current situation to set the course to promote data sharing and reward those who make their data easily re-usable. Only when we do this we will be able to reap the benefits that are attributed to academic data sharing. ♦

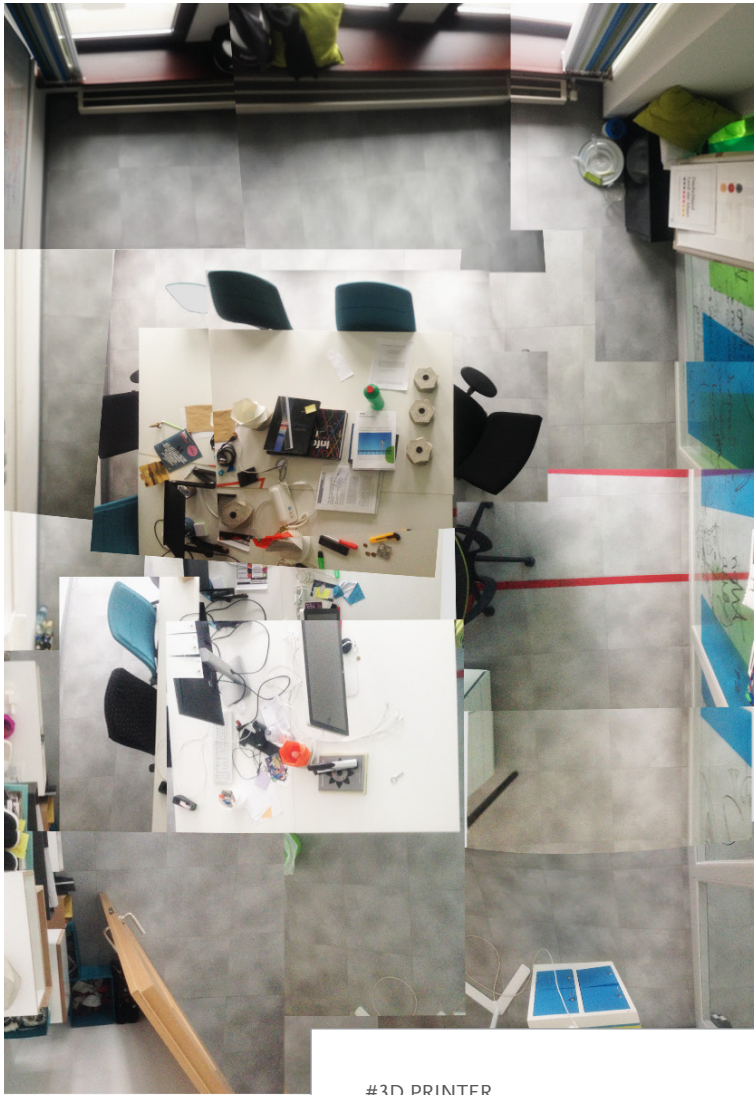
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## DIGITALER SALON ON THE PULSE OF DIGITALISATION

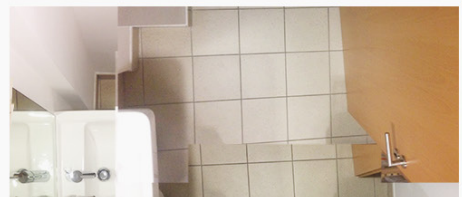
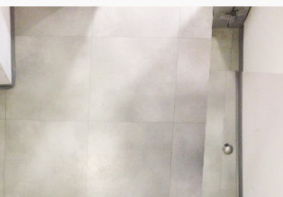
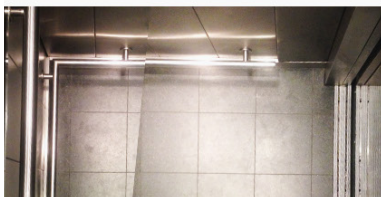
Throughout 2015, we further established our monthly discussion panel known as *Digitaler Salon* in collaboration with DRadio Wissen and the Kooperative Berlin as a well-known feature within Berlin's event landscape. Once a month we invite special guests from academia, journalism and business to discuss relevant questions about digitalisation and society with an audience on site, the #DigSal Twitter community and the DRadio Wissen show *Hörsaal* listeners. Moreover, the discussion can be followed via livestream. The topics in 2015 ranged from user-generated art and religion in times of the Internet, to virtual pornography. At the end of the year we put a very timely topic on the agenda, with the well-attended November edition discussing how smartphones prove to be useful tools for refugees.



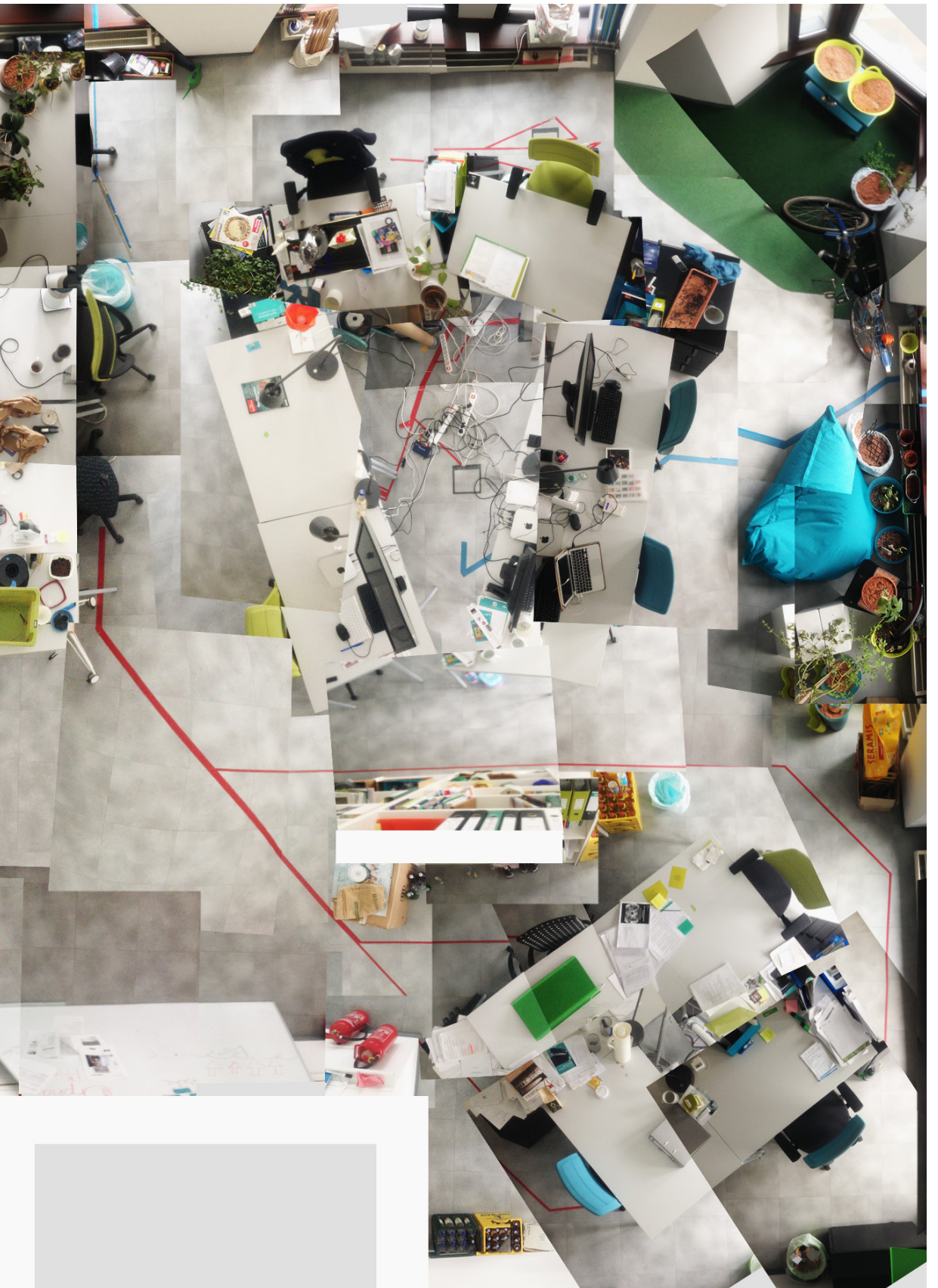
### #3D PRINTER

A vegetable farm, a gym, a workshop with a 3D printer: our 4th floor deserves a trophy for the most eclectic and chaotic, but also the most creative, floor. It housed the Innovation and Constitutionalism teams.

THE 4TH FLOOR







**MATTI GROSSE**

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User innovations in the energy market

In the scope of the energy turnaround, the German federal government has started to shift our energy supply to sustainable, renewable forms of energy. In order to accomplish the turnaround, we must establish new concepts of energy generation, distribution, storage and consumption. Consumers play a crucial role in this development. Being energy-prosumers, they need to adapt consumption, storage and supply to a constantly changing supply situation in order to prevent network bottlenecks and overcapacities (Federal Ministry for

Economic Affairs and Energy, 2014). But although Smart Energy technologies have been widely discussed for quite a while already, they still fall short regarding the consumer environment. In Germany, for example, applications that allow consumers to check the energy efficiency – or even to control or draw economic benefit from it – are hardly in use, and are still met with skepticism (Verbraucherzentrale Sachsen, 2012). The reason for this is a lack of convincing solutions to solve the users' problems.

#### CONSUMERS AS INNOVATORS

In this situation, a solution could be to take the consumers seriously. Alvin Toffler (1980) coined the term *prosumer* for consumers who act not only as a pure consumer, but who also improve market products and services themselves. As customers are often more aware of their actual needs than companies, they often initiate successful innovations and help to make new products more successful if they are involved in the process of product development (von Hippel, 2005). Thus, they are able to generate a variety of product and service innovations in other fields of technology development, such as in software development, recreational sport, and currently also in the fields of 3D printer development or robotics. Here, the Internet and its online platforms provide user communities with an important basis to organise

themselves and to discuss ideas, to share, improve and to process. As a participation study by the HIIG showed in 2014, the German online population is using the Internet for this purpose frequently and intensively.

Users are also becoming innovators in the fields of decentralised energy production, storage and consumption. About 10,000 visitors inspected and discussed projects such as homemade photovoltaic power and storage devices at the Maker Faire 2015 in Hannover, which describes itself as the Mecca of the makers community. For the Finnish market, there is already a study focusing on users like this, as well as on the mechanisms by which they develop, share and improve their ideas (Hyysalo, Juntunen & Freeman, 2013).

## CHANGE OF PERSPECTIVE FOR SMART ENERGY

According to the Federal ministry of economic affairs and energy, the role of the prosumers is – so far – limited to efficient monitoring and working on their energy consumption. By installing solar panels, wind turbines or heat pumps, the consumers are able to produce electricity and, thus, can contribute a significant share of the energy mix within the scope of so-called smart grids (Federal ministry of economic affairs and energy, 2009). In this scope, energy-prosumers are supposed to get involved in different areas of value creation, with the objective of establishing a key coordination tool within the range of digital platforms.

Due to the exciting possibilities regarding the role of the prosumer in attempts to further smart energy production and usage, as well as the lesser activity of prosumers in the narrower sense in practice, our research project – which is supported by the RWE Foundation – addresses the question of whether prosumers could be able to develop and customise products and services. We want to find out what barriers are slowing down user innovations in the energy market, or, respectively, which supportive factors can be found in the areas of 3D printing, recreational sports and open source – but not in the energy market. The primary questions in this respect are where and how user innovation will be able to take place in the energy market (and, is it already) and how it would be possible to encourage more innovations. In more depth, we are trying to find out which mechanisms innovative energy-prosumers can rely on to announce, discuss, improve and share user-centred innovations in the energy sector.

## BUSINESSES AND PROSUMERS

As there are already several quite successful user-centred innovations and business models in other areas, we want to show where user-centred innovations and business models can contribute to a better market performance and a more rapid diffusion in the field of smart energy. Here, the Internet plays a key role by facilitating and stimulating current trends – especially in the field of 3D printing and open source software. We assume that the Internet might be able to play a similar role in the smart energy market. ♦

continue reading on page 62 ►►



## THIS IS AN ARTICLE BY **MATTI GROSSE**

This article was published on 21 July 2015 on the HIIG blog. Matti Grosse investigates the reasons that stimulate users to be innovative and those that impede such behavior. At the Humboldt Institute for Internet and Society he is a researcher at the research department Internet-enabled Innovation.

## **USER INNOVATION IN THE ENERGY MARKET**

Interconnected, intelligent energy systems are a highly discussed issue. Such systems are used by customers to control and measure their energy usage. So called energy prosumers go a step further and produce their own energy, use it efficiently and feed excess energy back into the grid. Of particular interest are users that are motivated to invest their time to deal with technical and organisational requirements and as a consequence become innovative. The Internet is an important enabler for those users. Here, they network, solve questions, discuss, share and improve ideas and work on collective projects. Additionally, recent research has revealed so called careers of contribution. Within this concept users are not one-time shoppers but contribute in long-lasting and evolving ways.

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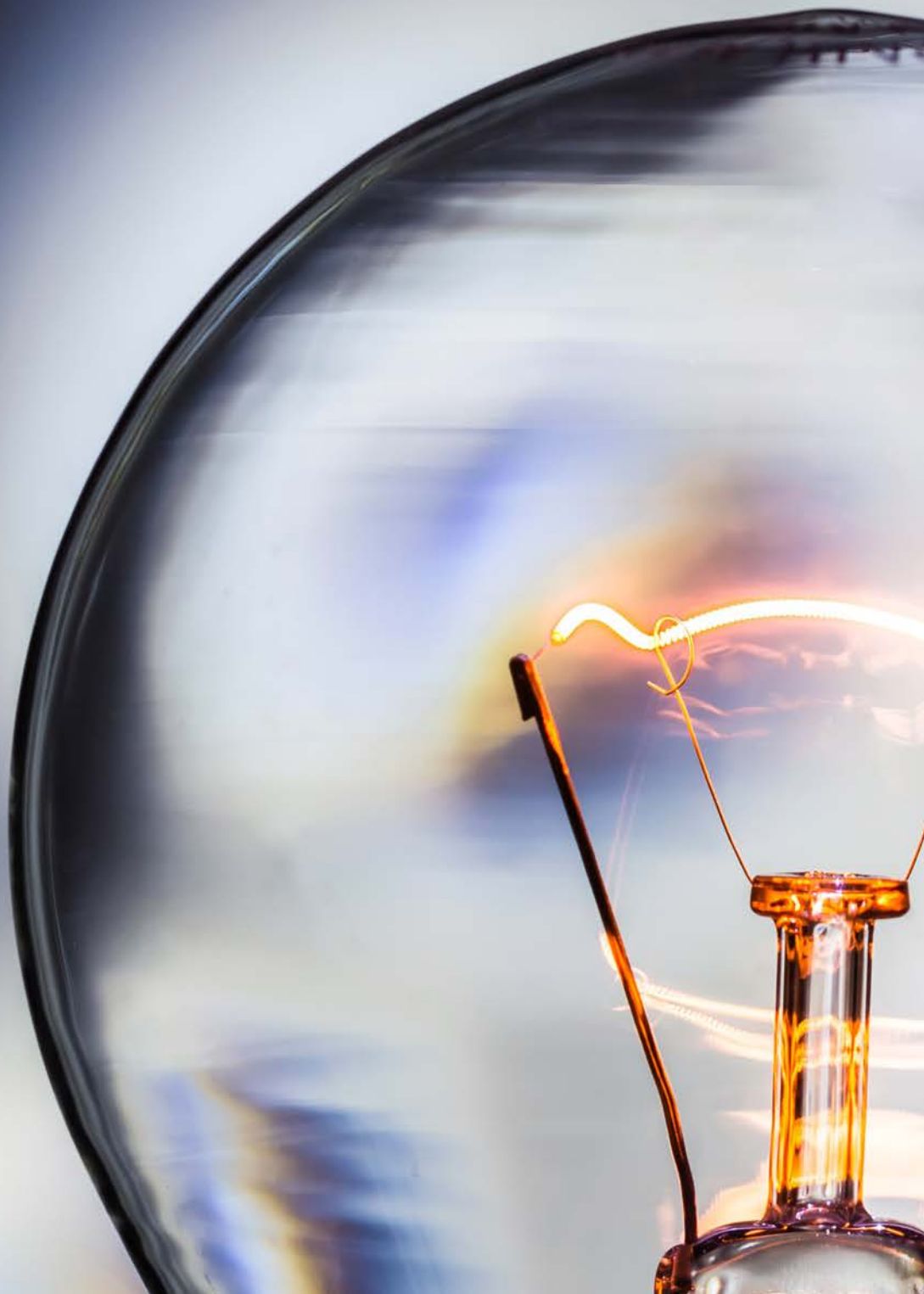
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*Thomas Gambke*



*Andreas Rade*

An Interview with a politician and a lobbyist.



## BRAVE NEW DIGITAL WORLD: HOW CAN GERMAN COMPANIES KEEP UP?

Digitalisation fundamentally changes and challenges our understanding of work and private life. Every employee has to decide how she will deal with the blurred lines separating the private and the public. Just as all businesses – ranging from small firms to global corporations – have to deal with transitions that will either let them prosper or put the nail in their coffin. We interviewed two experts who are shaping these processes: Thomas Gambke, member of the German parliament and SME commissioner, and Andreas Rade, managing director of the German engineering association VDMA. Though they each have their individual perspectives on digitisation, both argue for a rapid but thoughtful adoption of it.

**Robin Tech:** Everyone is talking about digitalisation – what does it mean to you and what is really new about it?

**Thomas Gambke:** The combination of technologies such as fast and wireless data transfer, world wide web, remote and smart devices like smartphones, smart metering and smart sensors will change nearly all processes of our daily lives. For example mobility will experience dramatic changes: public transport as well as individual transportation.

**RT:** In your opinion, which areas of private life will change most notably?

**TG:** Mobility, shopping, structure of daily activities: private and professional activities will become more interdependent.

**RT:** And which areas of employees' business life will change most notably?

**TG:** Private and professional activities will become more interdependent. Payment terms will be less determined by time but will be more and more activity-based and output-oriented. However: human beings are social creatures – how to respect and organise social ties and commitment will become increasingly important in professional structures. You cannot avoid your job partially penetrating your private life – but there is the opposite side of the coin: it will be impossible to keep your private life out of your professional activities.









# TOBIAS SCHNEIDER

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Collaborations between established  
companies and startups

There are many different options for startups and companies to collaborate. At the congress of the German Association of Project Management (GPM), we were introduced to two startups – one of them from a Berlin incubator, the other from a corporate spinoff – that are both working with the same company. The fundamental difference between the two models is the source of the initial founding idea. The concept for the incubator startup was conceived outside the established company and then established within the incubator, while the spinoff was originally based on a research project within the company. The two startups reported quite different experiences in the scope of the cooperation – in a positive and a negative sense. In the following, the specific perspectives of the two startups will be outlined – without claiming the experiences to be universally valid. First, the question arises why established companies and startups should start a collaboration at all. This question was also addressed by the World Economic Forum in 2014, with the result that collaborations between established companies and startups should serve to identify win-win situations, allowing both sides to benefit (World Economic Forum, 2014). For startups, there is the advantage of fast access to networks, resources and the extensive experience of the established company, while the companies can benefit from the startups' innovation potential (especially in the scope of groundbreaking innovations). However, in order to actually exhaust the potential, the collaboration must be based on a suitable strategy (World Economic Forum, 2014). For the spinoff, the nature of its founding was

crucial for the strategic fit, since it started off as a research project and was initiated with some of the company's employees. There is a significant physical proximity between the spinoff and the company, and a good fit between the business model of the startup and the company's innovation strategy – laying an adequate basis for a successful collaboration. For the incubator startup, the situation appears to be different. It is perceived as significantly less close to the company. According to internal statements, the startup had little direct contact with the company, although there were several initiatives to establish closer cooperation. As these attempts were unsuccessful, the founder began to pay more attention to the fit with the respective company's product in case of plans for further collaborations. In the discussion, both startups saw the physical and the strategic proximity to the company – regarding the business model and the practical benefit for the company – as essential prerequisites to establishing a real win-win situation. However, there are other facets to a partnership that are beneficial to both sides. The corporate culture of companies, especially for those that are well established, can in theory be positively influenced by the injection of creativity and passion, collaborations with young founders can bring. Not only can the startup benefit from the company's experience; the company can also make use of inspiration from the startup for its own operation. However – after two years as an independent company – the spinoff stated that it is foremost the startups that can benefit from collaborations, especially in the foundation phase. Startups benefit from certain freedoms,

reduced bureaucratic barriers and operational support, helping the spinoff to develop itself, or the product, quickly. However, the company had great difficulties in adjusting to the business model and experienced problems related to non-compliance with key figures and milestones. The incubator startup confirmed these findings. Instead of the company adopting the operational approaches of the startup, the situation for the incubator startup was the other way around. In practice, it showed that the startup is considered as a kind of playground, where progress is made primarily by chance, but not by systematic approaches. Thus, there is the offer of comprehensive support by experienced managers, but only little initiative to incorporate some of the startup's operational experience into the company. What the incubator startup pointed out as an advantage, however, was the aspect of a lean bureaucracy in the foundation phase, which meant the startup did not have to grapple with the company's internal processes – which in turn led to faster progress. In the specific cases of the two startups, the discussion showed that, in reality, the original intention of the company – a systematic identification of win-win situations – turned out to be difficult to implement. There were differences in the situation regarding the cooperation models. The incubator startup was able to benefit from the established company, especially in regards to the company's experience. The business model was further away from the group, so that – from the perspective of the founder – it was primarily the startup that could benefit from the collaboration. Thus, there is generally still room for improvement in terms of the incubator's strategic positioning and collaborations with external startups. It must be pointed out that the incubator startup was one of the first to pass through the incubator program. The operational and strategic orientation has since changed significantly – for the better. Right from the beginning, the business model of the spinoff was closer to the parent company's core business, thereby providing potentially greater synergies. The founder of the spinoff noted that the perceived beneficial effects were primarily on the spinoff's side, not so much on the side of the company. From his perspective, the spinoff's operational methods and culture were adopted by the company very slowly. Based on the statements of both startups, it becomes apparent that comprehensive collaborations can pay off – but there are also significant challenges that must be overcome. The statements of the startups correspond to each other in many aspects. However, as other aspects appear to point out differences between the two models of cooperation, it is not possible to make general statements. It would be worthwhile to discuss the issue of collaborations with other startups to get a more detailed impression. It would also be very interesting to find out more about the perspective of the companies or their innovation units, to find out how they assess the collaborations. ♦

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## THIS IS AN ARTICLE BY **TOBIAS SCHNEIDER**

This article was published on 1 April 2016 on the HIIG blog. Tobias Schneider is an associate doctoral researcher and focuses on Lean Project Management with a view on the application of different methodical approaches during different foundation phases of Internet-enabled startups.


## **INNOVATION AND ENTREPRENEURSHIP**

Internet-enabled entrepreneurship is a crucial driver of innovation, economic development and renewal. Within the framework of a national or regional innovation system, startups are a source of new ventures, products and services, and they often have high employment multiplier effects. Political or economic interventions to support innovation and entrepreneurship should consider the overall interactions of the components of this system and ensure that the enabling conditions for their emergence and expansion are in place. However, actors need comprehensive and deep information to develop supporting mechanisms. If entrepreneurial processes are only superficially understood, the policy development process may be little more than a shot in the dark.



## A LUNCH TALK WITH ENTREPRENEUR PETER THIEL

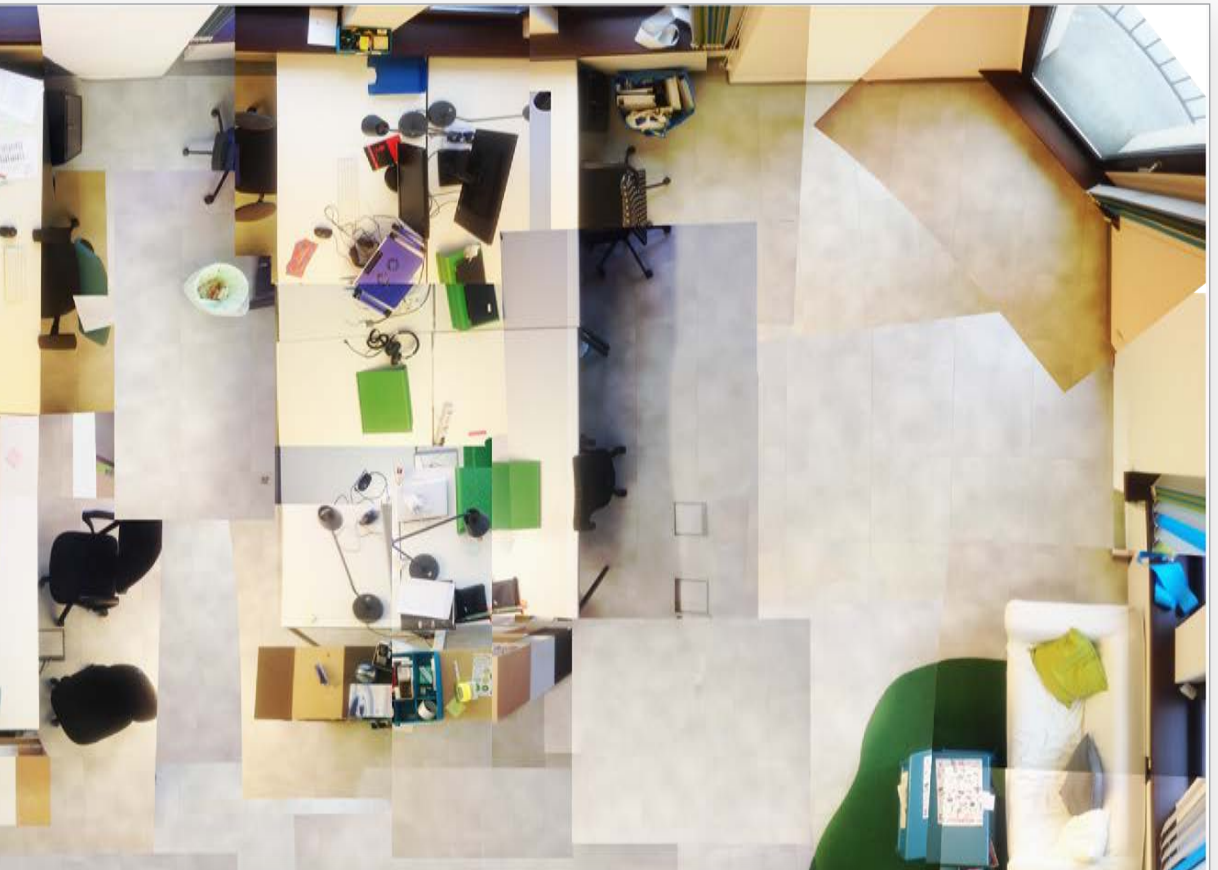
“Competition is for losers” or “it’s only worth striving for the monopoly, that springs from original ideas”, with such statements Peter Thiel, co-founder of Paypal and founder and investor of many other companies, questions the laws of economics and advocates for unconventional thinking and startups. The investor and author visited the HIIG on 21 February 2015. 500 people came to listen to his insights about startups and entrepreneurship. He also presented his new book *Zero to One: Notes on Startups, or How to Build the Future*.

 Watch the talk on [www.hiig.de/thiel](http://www.hiig.de/thiel)









## #CLASH OF DISCIPLINES

We regarded the 5th floor with affection, as it was the first one the HIIG rented in the stunning building facing Hausvogteiplatz. It began life as a home for all doctoral candidates, but later the Policy and Governance team and part of the Constitutionalism team joined in the party, bringing plenty of books to the floor, which was host to one continuous mashup of guest researchers and fellows.

THE 5TH FLOOR













**CHRISTIAN KATZENBACH & LIES VAN ROESSEL**

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Games research at HIIG hits the road

Research into innovation in games and gamification has been a focus of our empirical work at the HIIG for some time. In a project on innovation and imitation in the games sector, we interviewed game designers, developers, graphic artists, producers and lawyers from both small indie teams and big studios. We were interested in how they, in their daily practice, handle the fine line between being inspired by other games on the one hand and – blatantly or unintentionally – copycatting successful games on the other. A second group of

researchers carried out a research project into the ways gamification can improve online learning and MOOCs (Massive Open Online Courses). The presentation about the games project in Chile (see the travelling report earlier in this Encore) appeared to be just a foretaste of the events in spring and summer 2015, in which games research at HIIG truly hit the road. Over the course of a few months, we presented and discussed our findings and related issues at a series of workshops, conferences and public events:

#### WORKSHOP **SAVE GAME – LEGAL CHALLENGES IN GAME PRESERVATION**

On April 22, we co-hosted a workshop on the challenges of game preservation with a focus on copyright. Archiving and preserving games as part of our cultural heritage has proven to be difficult for museums and libraries not only for technical reasons, but also for legal ones. In the context of current debates about copyright reforms within the EU, we discussed possible solutions for improving this situation. Rike Maier, doctoral candidate at the HIIG, gave further input about the related issue of orphan works.

#### PANEL AT QUO VADIS **COPIES, CLONES AND GENRE BUILDING – INNOVATION AND IMITATION PRACTICES IN THE GAMES INDUSTRY**

At Quo Vadis, the game developers' conference held during the yearly International Games Week Berlin, we enacted our research project on imitation and innovation in a nutshell: we brought together an indie game designer, a producer at a large studio, and a lawyer specialising in games' intellectual property legislation, to discuss the fine line between inspiration and imitation. Lies van Roessel also presented the first findings of the study. Afterwards, German online tech magazine *Computer Base* published an article about the panel, reflecting that so-called clones, i.e. games that one-to-one copy another game's rules, could cause a devaluation of the original brand.

MAY 2015

**TALK AT RE:PUBLICA 15 FROM PONG TO FLAPPY BIRD – COPYING AND GENRE BUILDING IN THE GAMES INDUSTRY**

At re:publica 2015 we delivered the first presentation of our research findings. In a 30 minute talk, Christian Katzenbach and Lies van Roessel gave a short history on the relationship between copycatting and innovation in the games industry, and then dove into the findings of the interview study. We illustrated the legal and moral grey area between clones, i.e. blatant rip-offs, and games merely inspired by other games, which is generally accepted. The first results of the interviews showed that game designers do not share a consensus on where to draw the line between condemned clones and accepted inspiration.

**ACADEMIC PANEL AT DIGRA 2015 INTERNATIONAL CULTURES OF CREATIVITY AND IMITATION**

At 2015's Digital Games Research Association Conference, we co-hosted a panel on international cultures of creativity and imitation together with Tom Phillips from the University of East Anglia. Building on recent discourses and complaints about copycatting, researchers from the UK, Australia, USA and Germany presented findings from their respective studies on the relationship between creativity and imitation in the games sectors. The panel also addressed how this correlates with legal issues of copyright, intellectual property, trademarks, and more general notions of *appropriate* practice in game development.

JUNE 2015

**WORKSHOP INNOVATION IN THE GAMES INDUSTRY – BETWEEN PROTECTION AND FREEDOM**

In June, Medienboard Berlin Brandenburg and HIIG hosted a workshop on innovation in the games sector between protection and freedom. A diverse mix of German game practitioners, legal experts and researchers participated in a lively discussion about innovation in the games sector and how this can be stimulated.

**DIGITALER SALON LEVEL UP – DO WE BECOME SMARTER THROUGH GAMES OR WILL TOO MUCH OPTIMISATION MAKE US STUPID?**

In HIIG's monthly discussion panel Digitaler Salon, Lies participated in a discussion about serious games and gamification. The panel addressed how gamification and serious games currently spread across fields like education and health and how this changes the ways we learn and get better. Although opinions differed across the panel

continue reading on page 88 »



## THIS IS AN ARTICLE BY **CHRISTIAN KATZENBACH AND LIES VAN ROESSEL**

This article was published on 30 January 2016 on the HIIG blog. Christian Katzenbach leads the research group Internet Policy and Governance and its main research project Circulation of Cultural Goods. His research addresses the intersection of technology, communication, and governance. Lies van Roessel is a researcher, focusing on copyrights in the game sector and how the sector is regulated with regard to imitation and innovation. At the Humboldt Institute for Internet and Society she is part of the research department Internet Policy and Governance.

## **CIRCULATION OF CULTURAL GOODS**

Copyright is one of the most contested fields of Internet regulation. Strong copyright protection is routinely assumed to be a key factor in the creative economies. Yet, empirical evidence for its specific effects on creativity and innovation is still scarce. The debate is dominated by normative and legal perspectives. But in which ways does copyright really incentivise creative production? Are media sectors dependent on strong property rights to generate revenue? What is the relationship between imitation and innovation? Is there a clear-cut delineation of legitimately building on existing ideas on the one hand and plagiarising someone else's work on the other? How are algorithms regulating the distribution, consumption and sharing of cultural goods?

about the extent to which serious games should be fun, the participants agreed that more thorough and methodologically sound research is needed to show the actual effects of educational games and gamification.

SEPTEMBER 2015

PRESENTATION AT EPIP CONFERENCE **PLAYING WITHOUT RULES? REGULATING IMITATION AND INNOVATION IN THE GAMES INDUSTRY**

We ended the games research roadshow by presenting at the European Property for Intellectual Property (EPIP) in Glasgow, UK. In a session centred around empirical copyright research, we presented further results of the imitation and innovation project. The emphasis in this talk was on the differences between indie game developers and larger game companies, who appear to have very different strategies in handling the tension between inspiration and copying. For instance, whereas indies share their early ideas and prototypes within their community, larger studios maintain secrecy until the release of the game.

All in all, we are grateful for the various opportunities to debate and discuss the games research we are conducting at HIIG. The events yielded important feedback from game practitioners, as well as researchers from various related fields, which is essential to an interdisciplinary project such as this one. It will help us to further analyse, contextualise and disseminate the project's results in 2016. ♦





## **RIKE MAIER**

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Orphan works in the U.S.: getting rid of “a frustration,  
a liability risk, and a major cause of gridlock”

In June 2015 the U.S. Copyright Office published a comprehensive (234 page) report on the topic of orphan works and mass digitisation (U.S. Copyright Office, 2014). The report deals with the questions of whether legislation is needed to tackle the orphan works problem, and if so, what that legislation should look like.

But let's back up. An orphan work is a copyright-protected work whose rights holder is unidentifiable or untraceable, making it impossible to seek out a license. This applies to a fairly large percentage of works<sup>2</sup> which thus cannot be used legally, if the intended use is not already covered by one of the existing exceptions and limitations to copyright. While the issue has been discussed most prominently in the context of books and mass digitisation, the orphan works problem has frustrated various kinds of potential users around the world. In Europe, the topic has received a lot of attention and is the subject of an entire directive – the 2012 directive on certain permitted uses of orphan works. The exception this directive introduces, however, is quite narrow, and many commentators have questioned its effectiveness. That is particularly because it requires users to conduct a diligent search for rightsholders, which many institutions consider too time-consuming and too costly.

Across the Atlantic, lawmakers and scholars have followed these European developments closely. Several attempts at passing orphan works legislation in the U.S. (in 2006 and 2008) have remained unsuccessful. Prominent scholars (see

e.g. Urban, 2012) have noted that it would be sensible to just rely on the existing fair use exception to deal with orphan works, especially for libraries' digitisation projects. Fair use, the most important exception and limitation to U.S. copyright, is open-ended and allows courts to consider several factors when deciding whether the use is fair or whether it constitutes a copyright infringement. The orphan works status could be taken into consideration on several levels, e.g. for the nature of the copyrighted work or for the market factor (as a clear case of market failure).

Despite these arguments, the Copyright Office decided to review the topic of orphan works and started another series of public roundtables in 2014. These roundtables brought together a number of experts and diverse stakeholders, and were designed to advise Congress on potential legislative solutions.

In its report, the U.S. Copyright Office has now published its findings on the topic, and has also considered the experiences of other countries (and the EU) with orphan works legislation thus far. Interestingly, a limitation of liability is at the heart of the recommendation made by the U.S. Copyright Office. This basically means that a reappearing rights holder cannot claim full damages that would usually be available to him or her in the event of a copyright infringement – provided the infringer considered the work to be an orphan (details below). The Copyright Office rejects the idea of relying only on fair use or best practice statements, and also does not want to

introduce a new exception to copyright (as we did in Europe). Rather, they return to an idea that they had already lobbied for in the past – the limitation of liability. In fact, many aspects of the report are similar to the Shawn Bentley Orphan Works Act of 2008, which eventually failed in the House of Representatives.

#### CORE ELEMENTS OF THE LEGISLATION PROPOSED IN THE U.S. COPYRIGHT OFFICE'S REPORT

##### ... SPECIFICALLY FOR ORPHAN WORKS

The main idea set forth in the report is to limit a reappearing rightsholder's monetary relief to a "reasonable compensation". One major element we know from the European approach also made it into the U.S. proposal: the diligent search requirement combined with a notice of use.<sup>3</sup> However, going much further than the European exception, the U.S. proposal would also allow derivative uses and would limit injunctions for these types of uses (as long as the infringer pays a fee and provides attribution). An interesting and also new feature of the U.S. orphan works proposals is the fact that this limitation on injunctions would not apply if the use of the work "would be prejudicial to the owner's honor or reputation, and this harm is not otherwise compensable".

The U.S. Copyright Office's main argument for rejecting a solution that only relies on fair use is that courts have "yet to explicitly address how to apply fair use to orphan works" and that "because of its flexibility and fact-specific nature" fair use jurisprudence is "a less concrete foundation for the beneficial use of orphan works than legislation".

##### ... FOR MASS DIGITISATION PROJECTS

The second part of the report deals with something entirely new to the U.S. system: extended collective licensing (ECL) for mass digitisation projects. The U.S. Copyright Office explains what ECL is as follows:

"In an ECL system the government 'authorises a collective organisation to negotiate licenses for a particular class of works (e.g. textbooks, newspapers, and magazines) or a particular class of uses (e.g. reproduction of published works for educational or scientific purposes)' with prospective users. By operation of law, the terms of such licenses are automatically extended to, and made binding upon, all members of the relevant class of rightsholders, including those who do not belong to the collective organisation unless they affirmatively opt out. ECL differs from compulsory licensing in that private entities, rather than the government, establish royalty rates and terms of

use. In that respect, ECL ‘is thought to be beneficial because it preserves the freedom to contract more so than alternative compulsory license schemes.’”

Some experts at the roundtables spoke up against introducing ECL, arguing that it does not fit the American copyright system, that risk-averse users will license rather than rely on fair use, or that a lot of money would be generated that is non-disbursable. So far, the U.S. Copyright Office has not set forth a formal legislative proposal for ECL. Rather, they want to explore a pilot programme that is (at least initially) limited to certain types of published works and certain types of users and uses. Overall, the addresses look a little like the beneficiaries of the European orphan works exception: libraries and archives that fulfil their non-profit goals and seek to digitise their collections (literary works, embedded pictorial or graphic works, photographs).

#### WHERE THE U.S. COPYRIGHT OFFICE'S IDEAS MAY WORK BETTER THAN THE EUROPEAN APPROACH

Apart from the different overall approach adopted in the U.S. proposals (limitation of liability rather than exception), the scope of the proposed orphan works legislation is also much broader than that of the Orphan Works Directive. While only certain cultural heritage institutions benefit from the European directive for reproductions and making works available to the public, the U.S. proposal for orphan works is to apply to all types of users and all types of uses. Therefore, private actors like Wikimedia or documentary filmmakers, which the European directive does not privilege, could also rely on the proposed U.S. legislation to, for example, make derivative works.

Similarly, while the EU directive is limited to certain types of works (i.e. books and other writings, audiovisual and cinematographic works, and embedded works), the U.S. proposal covers all types of orphan works. This even includes orphan photographs. These tend to raise a lot of concern from rights holders who are concerned their photographs may falsely be considered orphaned. When orphan works legislation was passed in the UK (a much broader licensing scheme that applies in parallel to the European mandated exception and is also not limited to certain types of works), some commentators were even alarmed that the UK had “abolished copyright” (Young, 2013). In the U.S., photographers also voiced the most concerns, for example, that on the Internet, their works often get separated from the rights information. These issues, however, did not sway the U.S. Copyright Office. It referred photographers to databases and projects such as the PLUS registry or the UK Copyright Hub that help users to identify rightsholders of photographs. And, in “the unlikely but unfortunate event that a work of visual art is erroneously claimed by a user to be ‘orphaned’, and cognisable damages to the owner result, a small claims tribunal” should be set up.

The fact that the scope of the proposed U.S. legislation is much broader, may already make the orphan works legislation less of a niche project than the European directive. Some aspects, such as the fact that the orphan works proposal also applies to unpublished works, would likely never be possible in Europe. The fact that the U.S. Copyright Office acknowledges that the diligent searches are not feasible for libraries' and archives' mass digitisation projects also seems to be an important lesson learned from the European experience.

#### SOME DISAPPOINTED STAKEHOLDERS

However, not everybody is excited about the part of the report that pertains specifically to orphan works, particularly the search and notice-of-use requirements. This aspect makes some potential users as unhappy as the search requirements in the Orphan Works Directive make their European colleagues. For example, the Association of Research Libraries notes in an issue brief that the “notice of use is a burdensome requirement that will require time and resources and could significantly undermine the usefulness of the legislation” (Association of Research Libraries, 2015, p. 5). They would prefer to rely on fair use and best practice statements. The issue brief thus highlights the notion that the time-consuming search and notice-of-use requirements may deter as many (or more) users than does the legal uncertainty that comes with fair use.

While it seems understandable that the search requirements are time-consuming and complex, it does not appear to be that big of a burden to then also document this search. Particularly, because on the one hand this documentation has the advantage of allowing possible rightsholders to see that their work is considered an orphan, and on the other hand unlike the situation in Europe, the U.S. proposal only sees the documentation as a “mechanism for isolated uses”, and plans a different regime for mass digitisation projects<sup>4</sup> (even though this again is limited to certain types of works, see above). However, the U.S. Copyright Office has opted not to incorporate one potential advantage that could come with a searchable notice-of-use register – i.e. avoiding duplicate searches. The Copyright Office states: “[E]very prospective user must satisfy the diligent search requirement independently”; checking the notice-of-use registry will not be sufficient.

We will see if this proposal will be more successful than its predecessors. It certainly has promising elements, even though some stakeholders believe the search and notice-of-use requirements will continue to make orphan works a source of frustration. ♦

continue reading on page 96 ►►



## THIS IS AN ARTICLE BY **RIKE MAIER**

This article was published on 9 July 2015 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 and Society she is part of the research project *dwerft* within the 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.

## FOOTNOTES

**Title** This used to be the Copyright Office's assessment of orphan works on their website.

**2** In Europe, film archives e.g. estimate that around 20% of their collections are orphans, see Association des Cinémathèques Européennes, 2009, p.1 (note that these are however covered by the European Orphan Works Directive).

**3** The diligent search was already part of previously proposed legislation in the U.S., but not the notice-of-use requirement.

**4** Member states can however introduce legislation for mass digitisation projects on their own, recital 4 of the Orphan Works Directive states that the "Directive is without prejudice to specific solutions being developed in the Member States to address larger mass digitisation issues, such as in the case of so-called 'out-of-commerce' works".

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"What is happening to copyright is also happening to social structures, markets, and to democracy as a whole."

## JULIA REDA FIGHTS FOR A FUTURE-COMPATIBLE COPYRIGHT

Julia Reda is a German politician and has been a member of the European Parliament (European Pirate Party) representing Germany since 2014. In her political work she focuses on the copyright reform, because the emerging digital society questions the existing legal framework. In the Interview, that was conducted by Lies van Roessel, she explains what goals she wants to achieve concerning copyright and what's critical about the EU's course.

**Lies van Roessel:** With which three key words would you describe your own plans for a copyright reform?

**Julia Reda:** **Encouraging creation by everyone:** For the first time in history, everyone is carrying the tools of creation and the means of global distribution in their pocket. The copyright framework has to stop hindering this explosion of creativity by allowing transformational creation (remixes, mashups, lip dubs, etc.), audiovisual quotation (GIFs), curation (scrapbooking on web services like Tumblr and Pinterest), caricature, fan creation (fan fiction, subtitling, etc.), as well as research methods like text and data mining – with easy to understand rules for everyday people.

**Future-compatible:** Clearly technological and social change have been outpacing legal change. We must add a flexible open norm to the exhaustive list of copyright exceptions so that we don't have to update the law again when the next developments inevitably occur.

**Harmonised:** Creators need to be able to reach all of Europe with their works – users should never be blocked from purchasing or accessing works based on their location. Moving across a European border mustn't change what you are allowed to do: Exceptions must be fully harmonised, ideally with a single European copyright title.

**LR:** With which three key words would you describe the Commission's plans for a copyright reform?

**JR:** **Business-centric:** The Commission is looking at copyright only in the context of improving the *Digital Single Market*. Focusing on economic growth and jobs as the only objectives comes with a danger: Organisations benefiting from the current system will typically argue







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



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**REBECCA KAHN**

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South Africa might get the worst  
internet censorship law in Africa

Since 1994, South Africa has been hailed as one of the African countries where civil liberties are enshrined and protected by a progressive Constitution. However, the recent draft Online Regulation Policy proposed by the Film and Publication Board (FPB) which would regulate online content has left many people stunned by

the degree of poorly-defined, yet draconian and far-reaching, censorship provisions for online content. The regulation seems to apply to films and games distributed online (regardless of subject matter), as well as to publications containing certain loosely-described forms of sex, violence and hate speech:

**5.1.1** Any person who intends to distribute any film, game, or certain publication in the Republic of South Africa shall first comply with section 18(1) of the Act by applying, in the prescribed manner, for registration as film or game and publications distributor.

**5.1.2** In the event that such film, game or publication is in a digital form or format intended for distribution online using the internet or other mobile platforms, the distributor may bring an application to the Board for the conclusion of an online distribution agreement, in terms of which the distributor, upon payment of the fee prescribed from time to time by the Minister of DOC [Department of Communication] as the Executive Authority, may classify its online content on behalf of the Board, using the Board's classification Guidelines ...

The implication here is that video bloggers, or any other kind of digital creator, who create content and upload it to services such as YouTube, Vimeo or any other platform and do not register as distributors, run the risk of falling foul of the regulations, and face the

prospect of FPB officers knocking on their door. As a solution the Board has provided a mechanism which places the burden of classifying such content onto Internet intermediaries (without actually providing an exception for user-generated content):

**7.5** In the event that such content is a video clip on YouTube or any other global digital media platform, the Board may of its own accord refer such video clip to the Classification Committee of the Board for classification.

**7.7** Upon classification, the Board shall dispatch a copy of the classification decision and an invoice payable by the online distributor within 30 days, in respect of the classification of the content in question.

In this case, an "online distributor" might be a South African ISP, despite the fact that they might have no connection with any "global digital media platform" who might be hosting the content. And no provision seems to be made for content

uploaded via non-local services. In either case, the draft presumes that ISPs have both the capacity and the will to take down the original video, and to upload a new, classified, version containing the FPB's logo:

**CENSORED**

**7.10** The online distributor shall, from the date of being notified by the Board in writing of the classification decision, take down the unclassified video clip, substitute the same with the one that has been classified by the Board, and display the Film and Publication Board Logo and classification decision as illustrated in clause 5.1.6.

In South Africa, classification by the FPB is already required for offline films, games and proscribed publications, and the proposed regulation purports to be extending the classification scheme to online versions of those materials.

Another disturbing clause states that:

**7.4** With regard to any other content distributed online, the Board shall have the power to order an administrator of any online platform to take down any content that the Board may deem to be potentially harmful and disturbing to children of certain ages.

So an online platform can be compelled to take down any online content that the Board may deem to be potentially harmful and disturbing. However, traditional publishers are subject to no such extrajudicial censorship.

In terms of the definition of what might be deemed harmful and disturbing, the draft's background section gives an example of non-sexual videos that, even under the current law, were issued a classification by the FPB. One example cited was two videos, currently hosted on YouTube, in which an evangelical pastor orders members of his congregation, some of whom were minors, to graze like cattle and drink petrol. Under the new proposed regulation, the FPB would be able to order such videos – which are obviously newsworthy and in the public interest to be seen as news – to be deleted from the Internet. The juxtaposition of old-fashioned moral censorship, with its narrowly prudish preoccupation with depictions of sex and violence, alongside attempts to control the creation and distribution of digital films, games or other publications has been seen by some analysts as an attempt by the government to use the FPB as a mechanism of state control over civil society debate and criticism of the government, without consideration for broader free speech or public interest rights. In their analysis, the Electronic Frontier Foundation went so far as to argue that it bears the hallmarks of “... being the response to a wish-list from a single, puritanical special interest group”.

In this respect, the draft was an alarming return to the censorship rules of the apartheid era, when many books, films, and other cultural works were banned for being dangerous, subversive or obscene. These include Mary Shelley's *Frankenstein*, which was deemed obscene, the children's novel *Black Beauty* (a story about a horse) which was banned because of the title, or the 1967 film *Guess Who's Coming to Dinner* which was banned because of its depiction of a multiracial relationship.

And while analysis has shown that some clauses in the draft proposal are, in fact, unconstitutional and as such are likely to be struck down by the Constitutional Court, the proposed legislation is a worrying signal of how the government sees the role of regulatory legislation of digital content.

The period of public comment on the legislation closed in mid-July, and the Board spent the latter half of 2015 soliciting commentary from other spheres. In the meantime, other surveillance and censorship activity by the government, including the draft Cybercrimes Bill is causing non-profit, academic and other groups to ask serious questions about the status of freedom in post-1994 South Africa. ♦

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## THIS IS AN ARTICLE BY **REBECCA KAHN**

This article was published on 2 December 2015 on the HIIG Blog. Rebecca Kahn is a research fellow and focuses on the impact and effect of digital transformation on cultural heritage institutions, their documentation and internal ontologies. At the Humboldt Institute for Internet and Society she is part of the research department Internet Policy and Governance.

## **RESEARCH FELLOW PROGRAMME**

The HIIG offers outstanding scholars from all over the globe the opportunity to come to Berlin as a fellow or a visiting researcher to engage in specialist exchange. Selected fellows are very welcome to collaborate in a growing international team and to participate in the research activities at our institute. The HIIG offers a number of opportunities to get involved with its research programmes and to discuss research projects with the 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.





## THE WEEKLY LECTURE SERIES: WERKSTATTGESPRÄCHE

Under the title *The Internet as challenge for state, law and society*, the institute staged a weekly lecture series from April to June 2015 held at the law faculty of the Humboldt-Universität zu Berlin. The workshop discussions aimed at giving an introduction to the functions of the Internet and at providing insights into law and key aspects of Internet and society. Selected speakers combining both science and practice illuminated different topics around Internet law and current challenges of a digitised society from their point of view. It can be considered as particularly fruitful that the institute was able to invite representatives of the German Federal Intelligence Service despite the aftermath of the Snowden revelations. The shortened list of speakers below shows the variety of perspectives.

**Dr. Werner Ader**, Head of division of the legal advisor's and data protection department at the German Federal Intelligence Service: Surveillance by the Federal Intelligence Service and the protection of human rights

**Paul Nemitz**, Director Fundamental rights and Union citizenship, Directorate-General Justice of the European Commission: Data preservation, the EuGH Google verdict and the reform of data protection in Europe

**Ben Scott**, Senior Advisor to the Open Technology Institute and a Visiting Fellow at the Stiftung Neue Verantwortung in Berlin. Previously, Policy Advisor for Innovation at the U.S. Department of State: Privacy and Security Policy in a Post-Snowden World

**Norbert Riedel**, Federal Foreign Office, Commissioner for International Cyber Policy: Development, functionality and trustworthiness of the Internet

**Reinhard Priebe**, former Director Internal Security, Directorate-General Home Affairs of the European Commission: European Cyber security politics in the light of transatlantic negotiations

**Cornelia Rogall-Grothe**, State Secretary at the German Federal Ministry of Internal Affairs: The IT planning office and the digitalisation of state and administration in Germany and Europe

**Kim Lane Scheppele**, Director of the Program in Law and Public Affairs, Princeton University. Laurance S. Rockefeller, Professor of Sociology and International Affairs in the Woodrow Wilson School and in the University Center for Human Values: The War on Terror and the Deep Dilemma of Evidence

**HANNFRIED LEISTERER**

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The right to be forgotten: recent  
developments and German case law

## INTRODUCTION

The Internet does not forget – at least that is what is said. Unlike the human brain, the Internet is commonly seen as unable to forgive or forget. And indeed, there are approaches and initiatives to establish a digital archive of the world wide web and other content, such as the Internet Archive's *Wayback Machine* (Lobe, 2015). From the viewpoint of media history, however, the establishment of digital repositories of knowledge would not necessarily be safe from suffering the same fate as the Alexandrian Library, book printing, the radio or photography – for it would still be necessary to find a balance between fear of information loss and information overload (Groebner, 2015). Fortunately, there is no acute danger of a digital amnesia – not even as a consequence of a ruling by the European Court of Justice (ECJ) from 2014, due to which there is a *right to be forgotten*. More precisely, there is a limited right of the person concerned to have search results removed by a search engine provider under certain conditions – based on the general right to deletion and objection (European Union,

1995, art. 12 lit. b and art. 14 lit. a) in the Data Protection Directive (C-131/12, 2014). Given the respective shortcomings in the ECJ's enforcement of law, some observers even spoke of a "restitution of the data protection law" (Kühling, 2014). This deletion right requires a balancing of opposing fundamental rights: the fundamental right to privacy and the protection of personal data (European Union, 2012), the users' right to access information and the financial interests of the search engine operators.<sup>1</sup> Even though the balancing of these interests must always be considered in the scope of the individual situation, the court assumes that, because of the potential seriousness of the interference with the rights of individual persons, due to data processing by the search engine operators, it is generally the personal rights that take priority (C-131/12, 2014, art. 97). In most cases, search results must therefore be deleted upon request. However, the court stated that there could be "special reasons" for which the public interest would be considered more important.

## IMPLEMENTATION OF THE JUDGEMENT AND CRITERIA FOR THE DELETION OF LINKS

The judgement of the ECJ leaves many open questions regarding the implementation. Thus, Google had to establish an expert advisory committee to find answers on how the judgement could be implemented. Meanwhile, a report with a list of criteria and recommendations for the handling of

deletion requests has been published (The Advisory Council to Google, 2015). The majority of the committee members were able to agree on a list of criteria to be applied in the case that a link has to be "deleted" if it violates personal rights. The criteria serve as a basis to evaluate each request individually. Among the most

important evaluation criteria are the role of the claimant in public life, the respective content, an assessment of the original source as well as the question of how up-to-date the information is. There was no clear answer to the question whether the respective page would have to be taken off Google's entire global service to avoid possible circumventions of a partial deletion. In other words, the question is whether a deleted search entry can still be assessed via a different domain of the same search engine (for example .com). Further, the majority of the experts pointed out that the judgement could not be interpreted as a right to be forgotten, but merely as a *right to delisting*. This means that links to search results are to be removed if they are inadequate, irrelevant or no longer relevant, or excessive. In addition to the whether-criteria, the report also contains recommendations regarding how such a deletion-request should be treated. Among other things, there are to be notifications to third parties (webmasters) – as it is especially the content providers within the Internet who are affected if certain content can no longer be assessed through their services.

#### THE FIRST COURT DECISIONS

Under German law, a right to deletion could be derived from §35 BDSG, and the standards are to be considered in the light of the European jurisdiction (Freialdenhoven & Heinzke, 2015). Also, the criteria mentioned above could serve as a basis to establish standards of balancing. Meanwhile, there have also been decisions by German lower courts regarding search results and their delisting, or their being forgotten. In a preliminary injunction case, following a thorough review of the European data protection principles, the regional court (Landgericht, LG) in Berlin came to the conclusion that the defendant, the German subsidiary of a U.S.-based search engine, had no standing to be sued. In the context of the case, a magazine had published an online report about previously initiated criminal proceedings against the applicant and, in particular, the latter's practices – which were seen as violations of privacy and as assumptions of authority. The defendant, the German subsidiary of the U.S.-based search engine, had to delete an entry from the search engine (27 O 293/14, 2014). The LG Berlin confirmed the objection issued by the German branch of the search engine operator, and it lifted the injunction. Due to the imprint page, which contained a reference to the parent company, and due to the DENIC-entry and the commercial register – which indicated that the defendant was merely responsible for the forwarding of online advertising contents and other products and services – the court decided that the defendant was most likely not responsible for disturbances in terms of §3 no. 7 Bundesdatenschutzgesetz. In the light of the ECJ's ruling, it might seem strange to legal laymen that a German subsidiary of a U.S.-based search engine had no standing to be sued, since the ECJ had found that search engine operators on the European market are bound to the European data protection laws. In a similar case,<sup>2</sup> at about the same time, the LG Heidelberg decided that search engine operators are bound

continue reading on page 118 »



## THIS IS AN ARTICLE BY **HANNFRIED LEISTERER**

This article was published on 10 June 2015 on the HIIG blog. Hannfried Leisterer is a doctoral researcher, focusing on the security of critical information infrastructure in Europe. At the Humboldt Institute for Internet and Society he is part of the research project KORSE within the department Global Constitutionalism and the Internet.

## **KORSE: THE INTERNET AND CIVIL SECURITY IN EUROPE**

The Network of Excellence for the Law of Civil Security in Europe (KORSE) is a research project funded by the German Federal Ministry of Education and Research. At the Alexander von Humboldt Institute for Internet and Society the KORSE research project focuses on Internet-related civil security issues, in particular: information sharing and its influence on Network and Information Security (NIS). The relevant private and public actors may be reluctant to cooperate and share information, since they are bound by data protection and trade secret regulation. The study examines the actual and potential data flows influenced by new NIS law and the NIS cooperation network among European states.

to EU laws and, thus, are liable for disturbances in the context of the *Störerhaftung* – meaning that they are obliged to remove a problematic link upon request of the person concerned (2 O 162/13, 2014). A closer look at the ECJ’s ruling shows why the case at the court in Heidelberg could be successful. The legal situation becomes more clear by distinguishing the geographical scope (European Union, 1995, art. 4 no. 1 lit. a) and the material scope, i.e. the data protection responsibility (European Union, 1995, art. 2 lit. b and d). Regarding the geographical scope of the Data Protection Directive, the ECJ’s judgement is based on the location of the subsidiary that the search engine operator established in one of the member states (C-131/12, 2014, art. 16). Thus, the parent company in the U.S. remains “responsible” according to Art. 2 lit. d Data Protection Directive. As the LG Berlin followed this differentiation consistently, it did not see the German subsidiary as the responsible body according to §3 no. 7 BDSG, meaning that the parent company is considered responsible. In the case before the LG Heidelberg, the defendant was actually the U.S.-based operator of the search engine.

#### FURTHER DEVELOPMENT

The first attempts to enforce the law on de-indexation in court proceedings clearly show that the actual problem is not so much a legal issue, but a societal one: the relationship between the public and the private sphere. In the scope of the development of the general data-protection laws, this is also illustrated by the federal government’s recommendation to establish conciliation bodies to settle conflicts. While it is possible to sue search engine operators in Germany,<sup>3</sup> extra-judicial approaches are preferable with regard to time and financial resources. The criteria and procedures to enforce the right to delisting become more and more clear. In particular, it is the criteria mentioned in the experts’ report, but also the guidelines of the working group on Article 29, that offer tangible criteria. In any case, however, the mandatory balancing of interests is becoming increasingly complex. Given the unresolved issues and the uncertainty, companies are facing considerable risks. The federal government’s suggestion – with regard to the development of the general data protection laws – that conciliation bodies could help to settle disputes, indicates that the issue is not primarily a legal issue, but a challenge concerning the relationship between the public and the private sphere. There is still a need for discussion. ♦

## FOOTNOTES

**1** The freedom of the press and the freedom of expression are not mentioned. Since search engines usually don't edit the contents in a journalistic sense, there were no media privileges according to Art. 9 Directive 95/46/EC.

**2** Here, the claim was based on §§823 no. 1, 1004 no. 1 sentence 2 analogous to BGB, §§185 et seq. of the criminal code in conjunction with Art. 2 no. 1/1 no. 1 GG or §§35 no. 2 line 2 (1), 3 no. 7 BDSG in conjunction with Art. 2 lit. b and d, Art. 4 no. 1

lit. a, Art. 12 lit. b, Art. 14 sentence 1 lit. a Directive 95/46/EC.

**3** The international and local judicial responsibility is subject to §32 ZPO, according to which the place of effect of personality rights violations is the victim's main place of residence (*Lebensmittelpunkt*). Also, German laws can be applicable, provided that the claimant demands that the place where the harm arose is considered (according to Art. 40 no. 1 sentence 2 and 3 EGBGB).

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## INTRODUCTION

Social science literature on the relationship between Internet development and democracy has featured controversial discussions between a teleological and almost utopian hypothesis and more critical or nuanced positions.<sup>1</sup> The “net empowerment” hypothesis views online communication as an instrument to empower the democratic citizen, enabling him or her to more directly engage in democratic decision-making, thereby approaching ideal conceptions of direct or strong democracy (Barber, 1994). Since each Internet user can produce and distribute political content (Bruns, 2009), established elite-driven political procedures and media gatekeepers are replaced by fluid online communication and less hierarchical networks; or in Shirky’s words, by “everybody” (Shirky, 2008). To elaborate on these expectations, this paper analyses

Twitter communication on the regulation of net neutrality. Does political conflict during the policy debate open up to ad hoc groups and individual activists, or do traditional actors preserve their important roles? The regulation of data and information flows on the Internet is a policy question of central importance to the online and civil rights communities and therefore constitutes a favourable case to test the participatory hypothesis. Empirically, we provide temporal and network analyses of the central debate hashtag #NetNeutrality to assess the policy-specific relevance of particular user groups. Our findings show limited evidence of an opening up of political participation, as the traditional actors in media and politics seem to preserve their influential roles, or at least retake them when it comes to policy-making.

## INTERNET AND DEMOCRACY

New Internet technologies and social media in particular have generated hopes regarding the general democratic development and the empowerment of individual actors in political participation.<sup>2</sup> We define political elites and news media as traditional actors as opposed to individual activists, highly individualised online media and new forms of self-publishing. This

differentiation is very common in the literature on net empowerment. Relying on established gatekeeping theories in many fields of research (Barzilai-Nahon, 2009; Goode, 2010; Sarcinelli, 2014; Shoemaker & Reese, 1996; Singer, 2001), Shirky introduces three criteria for distinguishing traditional media from emerging forms of online journalism:

“specialised functions, minimum tests for competence, and a minority of members. None of those conditions exist with political weblogs, photo sharing, or a host of other self-publishing tools.” (Shirky, 2008, 66)

In line with notions of net empowerment, networked information economy or networked public sphere, one could, like Yochai Benkler, expect that:

“the emergence of a new information environment, one in which individuals are free to take a more active role than was possible in the industrial information economy of the twentieth century. This new freedom holds great practical promise: as a dimension of individual freedom; as a platform for better democratic participation; as a medium to foster a more critical and self-reflective culture; and, in an increasingly information-dependent global economy, as a mechanism to achieve improvements in human development everywhere.” (Benkler, 2006, 2)

This abstract promise has become concrete in at least three strands of expectations. First, the proponents of a supplementation of representative democracy through direct democratic instruments and more direct participation emphasised the potential of communication first in the computer and then in the Internet era from their beginnings (Barber, 1994). Besides that, a second strand of euphoric expectations emerged, which has not so much been aimed at constitutional reform towards more participation, but rather expected a fundamental challenge of the elite-driven institutions and processes of representative democracy, emerging from the communicative realities of networked societies (Shirky, 2008). Traditional political elites and media gatekeepers would be more and more challenged or even replaced by everybody, by the grassroots or netroots of networked societies (Bruns, 2009; Shirky, 2008; critical perspectives in Hindman, 2009, 102; Schünemann, 2012). Finally, a third body of literature has transferred these euphoric assumptions into a new democratisation scenario focussed on citizen upheavals in a row of autocracies. These authors see the Internet and other information communication technologies (ICTs) as existential challenges or threats to autocratic regimes across the world (Diamond, 2012; Howard & Hussain, 2011)

In clear contrast to high expectations, critical enquiries into the implications of the Internet on democratic development have already unveiled disappointment. Euphoric expectations have provoked strong counter-arguments and criticism (Kneuer & Demmelhuber, 2012; Morozov, 2011). While many observers generally confront participatory innovations with paradoxical empirical results (“The populist paradox”, Gerber, 1999), the supposed contradictory effects, such as an increased elite bias in comparison to representative modes of decision-making, seem to be particularly accurate in the case of online participation (“reinforcement hypothesis”, Davis, 1999). Hindman’s study of political blogs in the United States points in this direction. He shows a clear resemblance between the opportunity structures and realities of political participation in the digital age and pre-Internet times:

“The unmistakable conclusion is that almost all the bloggers in the sample are elites of one sort or another. [...] A hugely disproportionate number of bloggers are lawyers or

professors. Many are members of the elite media that the blogosphere so often criticizes [...] In the blogosphere, as in the Athenian agora, those who devote themselves to public debates are those with social autonomy.” (Hindman, 2009, 123–124)

However, with regard to the opportunity structures for new forms of politics and democracy, the Internet has certainly changed the media environment and political communication (Chadwick, 2013). Especially social media or social networks that are so central to the second phase of Internet development (web 2.0) literally imply the promise of some sort of social integration capacity. For domestic politics, they provide new modes of participation and can play “an important role in the organisation and mobilisation of campaigns and political protests” (Kneuer, 2013, 14). Moreover, many observers see social media as challenging mass media and their gatekeeping function for the political public (Sarcinelli, 2014, 334).

By analysing Twitter communication, we have intentionally selected the social network that, with its issue-oriented communication, most likely constitutes a functional equivalent to traditional media (Kwak et al., 2010). It is therefore used intensively by political actors for the dissemination of policy ideas, the communication of news and the organisation of collective action (Jeffares, 2014). Thus, Twitter incorporates ambitions of a more accessible and intensive culture of political communication and a diversification of the media system. We are interested in an extension of participation within the domestic realm, across different institutional forms, including new actors and a broader public. In line with this, we expect that forms of discursive networking via Twitter and other online media have direct as well as more diffuse repercussions on political negotiations and produce interaction processes with political debates. We streamed the Twitter communication on #NetNeutrality to analyse the development of an on-going policy debate and the structure of the related online network.

## THE NET NEUTRALITY DEBATE

Net neutrality is a core issue of Internet governance. The community of so called netizens mobilises against the new business visions of telecommunication companies, in which they see an assault on the original idea of the Internet. Net neutrality proponents make the case for a nationally or internationally guaranteed commitment to an equal treatment of data packages on the Internet and the prohibition of any zero rating services that privilege certain content providers over their competitors. The principle of net neutrality thus matters for the liberal (or libertarian) self-understanding of netizens.

The movement for net neutrality is supported by some governments, such as the U.S. administration. In November 2014, President Obama urged the politically independent

oversight commission, the Federal Communications Commission (FCC), to regulate in favour of net neutrality. After intense public debate at different stages of the policy process, the FCC announced a decision to be made in the beginning of 2015. In light of the clear leadership role of the U.S. in Internet governance issues, the FCC regulation was highly anticipated and was seen as a worldwide role model for regulations on this issue.<sup>3</sup> However, political conflicts emerged along well-known partisan divisions and the issue became more and more politically polarised. Democrats see net neutrality as an important cornerstone of an equal economic and political playing field on the Internet and as an efficient customer protection. In contrast, Republicans regard net neutrality as an illegitimate government overreach into the economy, illustrated by a frequently retweeted and cited tweet by Republican Senator and presidential candidate Ted Cruz: “‘Net neutrality’ is Obamacare for the internet; the internet should not operate at the speed of government.” However, the FCC regulation pronounced a clear commitment to the principle of net neutrality.

The fundamental regulation question has become a contentious issue in many other countries at the same time and it regularly reaches daily politics. However, regarding legislative output, the EU constitutes a slightly different example, as the telecommunication sector falls under its supranational competences. Recently, the net neutrality issue has provoked tensions between the two legislating institutions. While the European Parliament, after a strong campaign by European digital rights organisations, positioned itself in favour of net neutrality, the Council (comprised of national EU governments) presented a divergent position in March 2015, which was more in line with the interests of big service providers (Council of the EU, 2015). In the trialogue meetings of mid-2015, the institutions agreed on rules that the European Parliament finally passed at the end of October (European Commission, 2015). The new rules are meant to prevent Internet Service Providers from slowing down Internet traffic or from blocking content in order to require additional charges. However, the considerable exceptions have earned much criticism from Internet activists who would have preferred an unimpaired commitment to the net neutrality principle as shown by the U.S. government.

In order to assess the potential for intense political conflict that can influence decision making on this sort of regulation, we start with the assumption that political mobilisation among Internet users is especially high when self-referential questions, i.e. the regulation of cyberspace, are at stake. This is even more likely, when substantial issues and principles of online communication are affected by regulation. Thus, the massive mobilisation of transnational netizen communities against the anti-counterfeiting agreement ACTA might serve as a comparable case. After years of negotiations and at the end of an international decision-making process, the effectively articulated protests of transnationally networked user groups caused an important political turnaround

(Kneuer, 2013, 7; Matthews & Žikovská, 2013). The interview-based study of Dür and Mateo showed the interplay between a favourable public opinion and citizen group influence. Motivated by a relatively high public salience of the issue that had been successfully increased by interest groups, many activists and citizen groups stepped in and actively campaigned against the agreement. These activities finally provoked the turnabout of decision-makers, as the authors argue (Dür & Mateo, 2014).

Overall, following the participatory hypothesis, the openness and accessibility of Twitter networks should reflect an empowerment of civil society groups and activists in comparison to political elites and traditional media. However, since net neutrality is also on the mainstream political agenda, especially as a partisan policy debate in the U.S., it is possible that actor constellations from the political system offline are reflected in the online networks. Thus, in accordance with the normalisation hypothesis in communication studies, it is possible that the political and economic capital of established actors translates into a higher network centrality in Twitter debates.

#### METHODS AND DATA

We collected the metadata and contents of 503.839 tweets and retweets containing the hashtag #NetNeutrality posted between 14 January and 6 March 2015. Twitter hashtags can be considered as topical query terms that serve “as a vehicle for otherwise unconnected participants to be able to join in a distributed conversation” (Bruns & Burgess 2011, 49).<sup>4</sup> Because of its public character and its communication structure that is mostly topic-centered, we consider Twitter to be a best case for political activism. This does not necessarily apply to other, more private social networks like Facebook. For most of our analyses and data cleaning tasks we used the open source software *R* and in particular its package *streamR* (Barberá 2014). The network analysis was performed using the visualisation software Gephi.

The undirected network graph is constructed taking users as its nodes and mentions and retweets as its edges. We used the PageRank algorithm to determine the network centrality of users taking into account all information on the connections of the other actors in the network. That way, the popularity of an actor is not only based on its incoming references (indegree), but also on his/her own activity to shape the debate through tweets and retweets. This procedure takes the interactions and dynamics of the evolving net neutrality debate into account. However, the methodological focus on metadata restrains the interpretation of the data, as information with regard to the intentions of mentions and retweets can only be inferred from detailed content analyses. Therefore, the interpretation of debate structures is grounded in graph theory, i.e. actor positions are assessed in terms of their network centrality.

In general, the analysis of social behaviour on the Internet suffers from uncertainties that are inherent to the medium (cf. the overviews in: boyd & Crawford, 2012; Ruths & Pfeffer, 2014). The streaming of tweets using the API for instance is restricted to 1% of real time Twitter traffic.<sup>5</sup> Moreover, besides relevant messages, communication in social networks produces a lot of noise, e.g. spam and automated messages sent from bots that distort political debates.<sup>6</sup> Naturally, the Twitter population and its subgroup of politically active users are not representative mirrors of offline populations. In particular, the latter caveat has to be kept in mind when interpreting the empirical results. However, since we only concentrate on the structure of online debates and do not infer the results from our findings to the offline world, the population bias inherent to Twitter is negligible in this context.

## FINDINGS AND DISCUSSION

The debate became particularly intense with an increasing partisan divide regarding the regulation of net neutrality. The peak on 21-22 January is related to Barack Obama's State of the Union Address in which the President proposed a "free and open Internet" and subsequent congressional hearings on the topic. On 4 February, FCC Chairman Tom Wheeler announced his intention to advocate the principle of net neutrality in his regulation proposal to his commission. Wheeler proclaimed his announcement with tweets using the #NetNeutrality hashtag that were retweeted more than 1,000 times and celebrated by the activist community.<sup>7</sup> Until the FCC finally announced its long awaited regulatory decision, net activists and NGOs such as Fight for the Future launched Twitter campaigns animating Internet users to write or tweet to their members of Congress. Over time, a considerable mobilisation by regulation opponents emerged, originating for instance from activists from Tea Party groups or from prominent opponents like libertarian and EFF co-founder John Perry Barlow and Internet entrepreneur Marc Cuban.<sup>8</sup> The final decision of the FCC was accompanied by more than 238,000 tweets on 25-27 February. Mass media reported extensively on the decision, the New York Times called the struggle for net neutrality the "longest, most sustained campaign of internet activism in history." Civil society organisations, NGOs and political figures such as President Barack Obama, Senator John McCain and the Speaker of the House John Boehner connected their official statements to the Twitter debate by using the hashtag #NetNeutrality.

The dynamic developments within the mainstream U.S. policy debate find expression in activity peaks in the Twitter debate that seems to follow their lead. This first finding deviates to a certain extent from Faris et al. (2015) who regard non-traditional actors as the main agenda setters. Since their research period ends in November 2014, it is to be assumed that the debate structure significantly shifted from a phase dominated by bottom-up activism to an institutionalised policy debate that resembles the established

continue reading on page 128 ►►





## THIS IS AN ARTICLE BY **WOLF J. SCHÜNEMANN,** **STEFAN STEIGER AND SEBASTIAN STIER**

This article was published on 21 December 2015 in the Internet Policy Review. The authors are researchers at the Institute of Political Science at the Universität Heidelberg. Wolf J. Schünemann is a post-doc researcher in the areas of international relations, european integration, Internet governance, and cybersecurity. Stefan Steiger's research interests include cybersecurity and Internet governance. Sebastian Stier focuses on comparative politics, computational social science, Internet governance, and Internet politics.

## **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. The journal contributes empirical research, analysis and current affairs coverage, to contemporary debate about media, information technology, telecommunications, and Internet governance.

political system. We would therefore argue that while “networked collective action” might have been instrumental to politicise the issue in the first place, the policy debate itself mostly centred on established political actors and media gatekeepers. The following network analysis can further improve our understanding of the network structure and actor relationships.

The visualisation on page 122 displays the results of the network analysis. For illustrative reasons, we restricted the graphs to the 500 actors with the highest PageRanks.<sup>9</sup> The #NetNeutrality network features U.S. American actors from different spheres: politics, business and media.<sup>10</sup> The network centrality of the FCC and its chairman Tom Wheeler reflects the domestic policy debate. We can observe a significant political polarisation, with proponents of net neutrality on the left side and critics of FCC regulation on the right. The network separation depicts the tendency of actors on both sides to predominantly name, link and share content with users in the same camp. The Democratic Party argued that the FCC had the right to set legal regulations binding the telecommunication sector to net neutrality in order to guarantee consumer protection and to promote innovation in digital communication. In clear contradiction, the Republicans argued that such a regulation would trespass the competences of a federal regulation commission and that it would constitute an illegitimate market intervention.

Among the proponents, we find a number of NGOs from the liberal-progressive spectrum, civil rights movements such as the *Electronic Frontier Foundation* or *Demand Progress*, individual activists and the hacker group *Anonymous*. The high PageRanks of the main net neutrality advocacy groups *Fight for the Future*, *Free Press* and *The Open Media*, as indicated by the size of their labels, and their central position in the supporter camp illustrate that well-organised Internet activism can have an impact on Twitter debates. This finding concurs with the network analysis of Faris et al. (2015).

In the centre of the graph, there are media figures like the Wall Street Journal, CSPAN, The Hill and Verge that are regularly referenced by both conflicting camps. Some media, like the New York Times and Wired, are placed on the left, while Fox News is situated on the right. Business actors are mostly on the left side of the network. One clear exception is telecommunication entrepreneur Mark Cuban who is among the critics. While the arrangement in the pro-camp of Internet companies like Mozilla, Tumblr, and Reddit that have lobbied publicly for net neutrality seems logical, the same positioning of Internet service providers such as Comcast and Verizon is rather counter-intuitive. Looking at the content level, it becomes clear that net neutrality proponents were frequently referring to them as bogeymen via @-mentions (see also Faris et al., 2015). This explanation needs to be substantiated by a systematic qualitative examination of the data and again points to the limitations of a metadata-based research design.

The camp of critics is composed of Republican politicians such as Ted Cruz, Ron Paul, John Boehner, the accounts of the GOP, the Republican National Committee as well as other conservative groups and activists, for example, from the Tea Party movement. The existence of such a quantitatively significant opposition is the main difference compared to the paper of Faris et al., which finds that the “debate in digital media over net neutrality is heavily skewed towards proponents of net neutrality” (2015, 30). President Obama’s endorsement of net neutrality on 10 November may have contributed to the increasing partisan polarisation. The Twitter debate therefore seems to have transformed from an advocacy network driven by activism, to a policy network that more closely resembles the offline political system. This might indicate that the so-called normalisation in political participation does not depend as much on a particular topic, but on the phase in a policy cycle.

Several issue specific NGOs are quite successful in using Twitter to increase their public outreach and extend their network. Groups like *Fight for the Future* and *Demand Progress* lobbied extensively for net neutrality and gathered a significant followership on Twitter. However, our findings mainly illustrate the persistence of offline patterns in cyberspace and contradict the expectations of “here comes everybody” (Shirky, 2008). Elite actors in politics and mass media gatekeepers integrate the online channels into their communication strategies, quite in line with the “media hybridisation hypothesis” (Chadwick, 2013). However, since the U.S. is an outlier regarding the adaptation of online communication by political actors (Stier, 2012), it remains to be seen whether this finding can be generalised.

## CONCLUSION

Our study speaks for a “normalisation” of democratic communication in the Internet era, in line with previous empirical studies (e.g. Hindman, 2009). With regard to the limitations of the study, the research period chosen clearly reflects the latter stages of the U.S. policy debate on net neutrality. Knowledge of concrete mechanisms linking Twitter debates to policy making generally remains limited. While the policy position of President Obama and the Democratic Party surely influenced the final decision taken by the FCC, their support might have also been shaped by the online activism during the year 2014. An extension of the #NetNeutrality streaming into the past to include the time frame of Faris et al. (2015) could alter the presented results. However, our findings already indicate a structural shift in the debate from a phase of intense advocacy by activists preceding the policy debate that primarily features elite actors.

The high network centrality of the Internet service providers illustrates the need to methodologically expand the analysis, e.g. by differentiating between mentions supporting central actors on the one hand and those pressuring them to take a certain

action on the other hand. Furthermore, we chose a very basic definition of participation. Further works might also differentiate several degrees of participation in order to identify more nuanced participatory patterns. For social media in particular, we assume that political participation is not uniform, as superficial forms of participation (liking a message, sharing content, etc.) come along with more substantial contributions to debates. One avenue for further research is to move beyond metadata and analyse tweets using discourse analytical procedures. This could help to differentiate the normalisation hypothesis as political communication online and offline can be expected to diverge not only in structure but also in style and content.

The debate development and network structure of #NetNeutrality reveal a dialectic interplay between established structures of representative democracy and debates on social media. While the network analysis shows that several issue specific NGOs broadened their audience using new social media, the study also shows that “everybody” is not prominently featured, as individual activists and self-publishers rarely succeed in attaining a more central position in the network. This finding should, at least, be transferable to national or transnational policy debates that are bound to mainstream political agendas and conflicts. With regard to further assumptions for future studies, scholars should turn to nuanced theories that consider the characteristics of the emerging “hybrid media system” (Chadwick, 2013). Approaches might incorporate the notion of “Fifth Estate” (Dutton & Dubois, 2015) or the “gatewatching” function of individual actors instead of “gatekeeping” (Bruns & Highfield, 2015). ♦

## FOOTNOTES

1 See for instance the discussion of utopian expectations in Kneuer (2013) and Thiel (2014).

2 We apply a minimalist conception of political participation, i.e. tweets and retweets of political content.

3 The FCC's regulation is seen as a strong protection of net neutrality as it prohibits broadband providers to block, throttle or prioritise any specific content in order to increase profits.

4 The hashtag #NetNeutrality was central in the net neutrality debate. Issue-related tweets without this particular hashtag as well as related hashtag **populations** that have emerged during the debate, like #OpenInternet, have not been queried under this selection criterion.

5 However, this threshold has not been passed at any time during our study.

6 For this reason, the accounts @All4NeutralNet and @RealNeutralNet set up by activists from Demand Progress, were excluded from data collection, since they sent the same citizen petitions to Republican politicians and President Obama in an infinite loop.

7 Tom Wheeler (@TomWheelerFCC): "Our proposed #NetNeutrality rules ban Internet paid prioritisation, blocking, throttling & strengthen transparency: <http://wr.d.cm/16nDjn5>".

8 Their tweets illustrate the argumentation of the opponents fairly well: John Perry Barlow (@JPBarlow): "20 years ago, The Trojan Horse was 'What About the Children?' He's returned as #NetNeutrality". Mark Cuban (@mcuban): "The @fcc proposal on #NetNeutrality is 332 pages and won't be seen till after its voted on. That is who will run the Internet for us #badidea".

9 The label size of actors is determined by their PageRanks. The network layout is based on the Fruchterman-Reingold algorithm. Results remain robust when applying the Betweenness centrality algorithm instead of PageRanks.

10 The sheer number of Twitter users in the U.S. is not the only possible explanation for the preponderance of U.S. actors in the respective network. At least, in the research period at hand, Twitter users from across the world refer to the U.S. American policy debate on net neutrality and the respective set of actors. In contrast, in regards to the European regulatory conflict on the issue, only the MEP Marietje Schaake reaches a more central position in the network.

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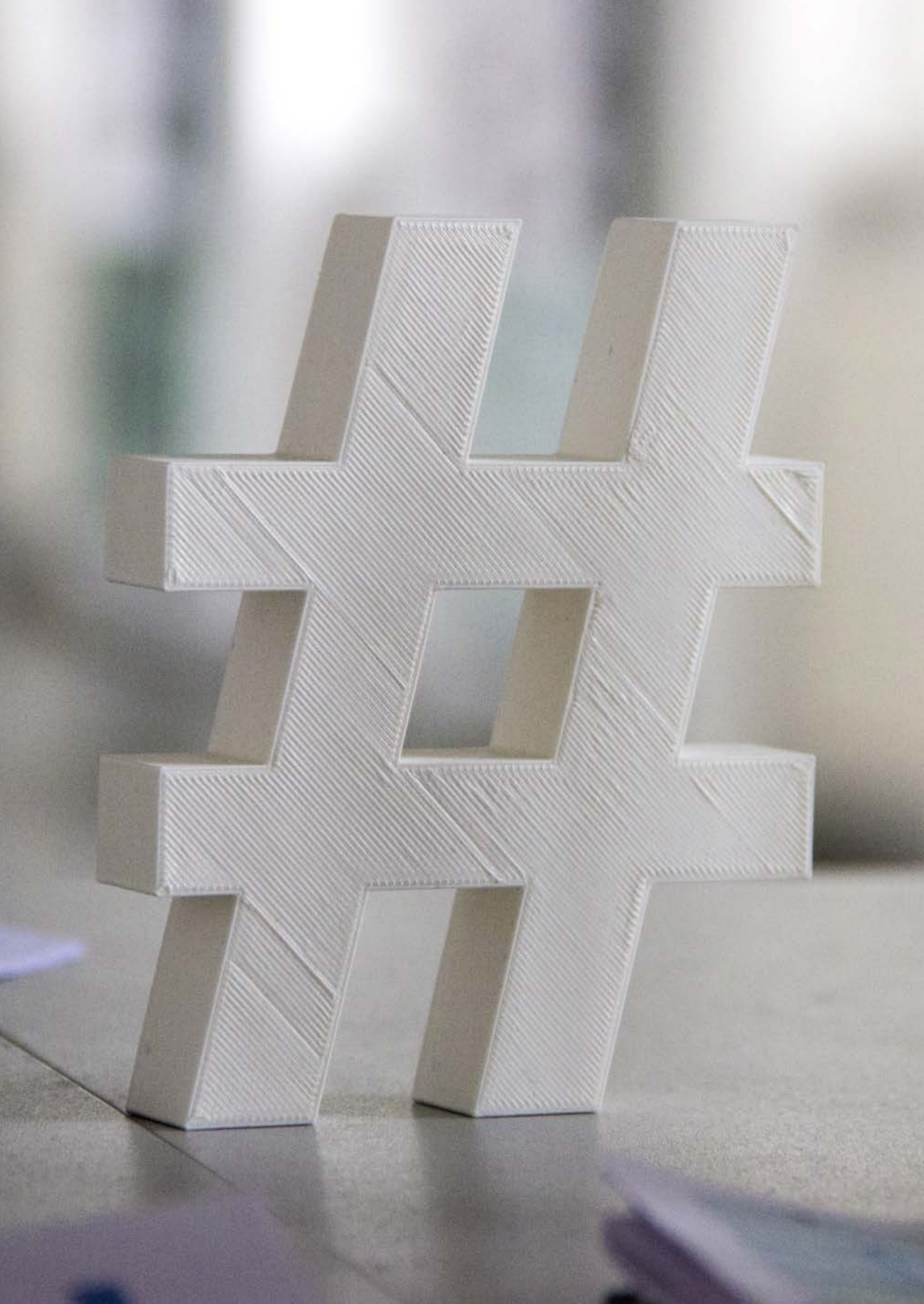
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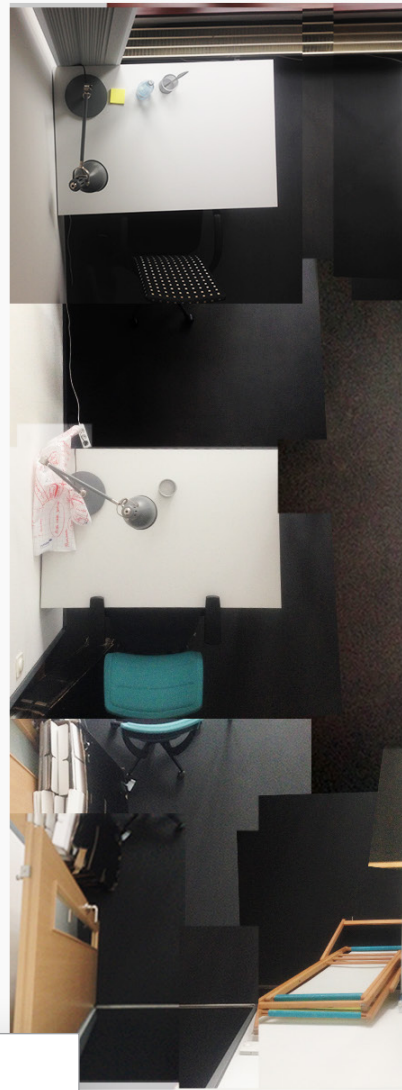
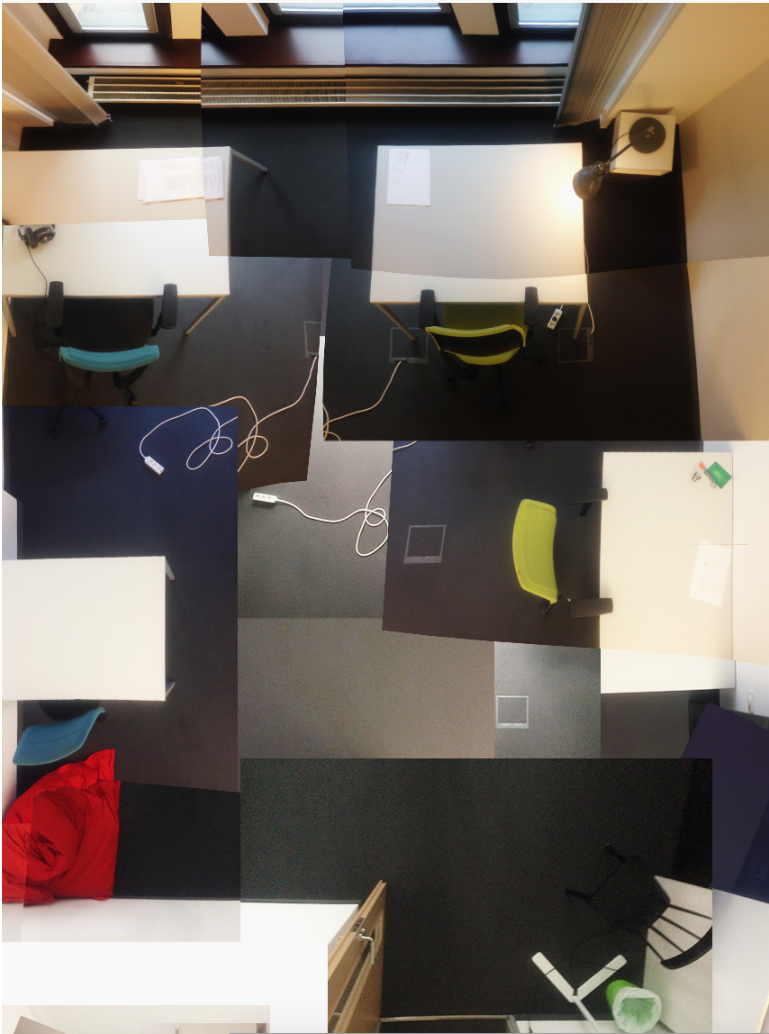
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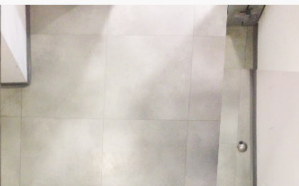
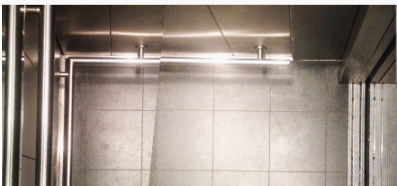


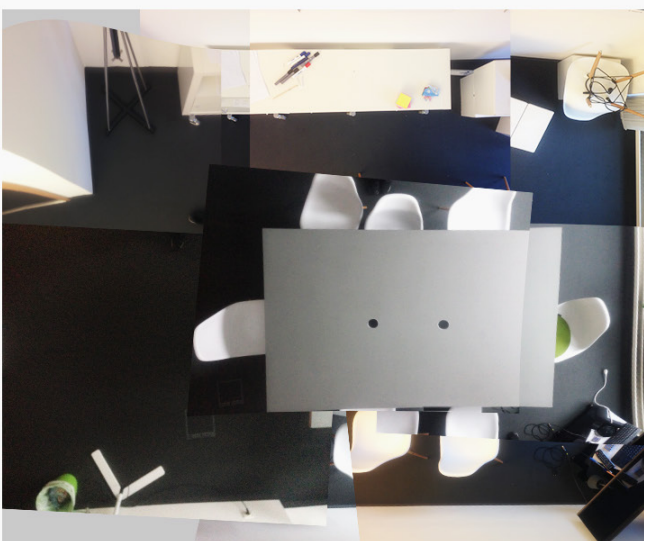


**#SILENCIUM**

Whenever it became too crowded and busy on one of the top floors, the 2nd floor offered a quiet escape; a place of retreat. It also provided two meeting rooms for smaller workshops, group work, or sometimes simply for a collaborative gaming night.

THE 2ND FLOOR





**UTA MEIER-HAHN**

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Internet interconnection: networking  
in uncertain terrain

The Internet today consists of more than 50,000 networks. Network interconnection is the Internet's central feature. Yet, there is little qualitative research on the junctions between networks – about why networks interconnect where they do, or about how network engineers create, maintain or shut down relationships with other networks. Given our current dependence on the Internet, this lack of exploration comes as a surprise. In theory, Internet interconnection is very transparent:

the protocols and standards governing the Internet are open. Platforms such as RIPE NCC's RIPEstat even allow laypersons to inquire about connections between networks. Anybody can study the workings of the Border Gateway Protocol (BGP), which network engineers use to set the rules for how traffic flows between their network and the adjacent networks. There are a number of measurement tools in existence. However, quantitative measurements tell us little about the how and why of interconnection.

#### LESSONS FROM EMPIRICAL INFRASTRUCTURE RESEARCH

I have conducted close to 50 semi-structured interviews with network engineers, peering coordinators, Internet exchange point operators and industry observers from more than 20 countries across the globe. This qualitative research has given rise to a number of findings that will hopefully contribute to a holistic understanding of Internet interconnection – an understanding in which the mode of evaluation is not reduced to the price. Here, I wish to provisionally share two of the themes that have arisen in order to facilitate a

discussion about the context in which Internet interconnection takes place:

- The clarity of the Internet's design principles does not correspond to the fuzziness of network operation in practice. Internet connectivity is crafted by people.
- There is a mismatch between the simplicity of the Internet's architecture with regard to Internet interconnection and the complexity of the economics that are enacted at the Internet's core.

#### EVERY NETWORK IS DIFFERENT

Both the technical architecture and the standards of the Internet are well documented. Harmonious infrastructure

development has been fostered by international bodies like the Internet Engineering Task Force (IETF), the

Internet Architecture Board (IAB) and also the Regional Internet Registries (RIRs). The fact that the concepts were so accessible has served the Internet's growth. Yet, no two networks are the same or, as one engineer put it:

“Every networker or architect adds his personal touch to his network. He has to stay within certain borders. But within the network, he is like ... the god.”

When network engineers started building the Internet, there were no textbooks to draw from, no rules about how to interact and no formal supervision. Thus, building networks and interconnecting meant learning by doing. To a notable extent, it still does, a point that most interviewees underlined. The decentralised, rhizomic evolution of the Internet has led to an infrastructure in which globally communicated technical standards and best practices merge with individual preferences from the present and the past.

The differences in operation, and the friction these differences entail, become relevant when network actors depend upon each other. And this mutual dependence is necessary when actors create connectivity between their networks. So network actors such as Internet service providers, content distribution networks and carriers have to cooperate to a certain extent on the operational level. In underlining this, I neither wish to suggest that they make gifts to each other, nor to ignore the sometimes fierce competition between them.

However, receiving connectivity comes at the price of entering a “shared-fate system”, as one interviewee called it. If one network messes with its configurations, other networks will be affected. Engineers try hard to mitigate such damages by creating alert systems or by applying so-called route filtering. But the Internet is live; it is always on, and irregularities can and do happen at any time – 24 hours a day, 7 days a week, 365 days a year. Hidden from Internet user's eyes, traffic starts flowing in unforeseen ways, networks announce unusual routes, or ports between networks become congested. In such cases, engineers first try to identify the issue: did a router collapse? Did environmental damages occur? Is there a big media event? Or is this due to another engineer's *fat finger*? (Networkers jokingly refer to fat fingering when typos in code cause errors.) It is the network engineer's job to make sense of the situation, determine to what extent it poses a problem and decide whether a solution is within her reach. I plan to explore these networkers' solution strategies in more depth in future publications. But for now, one lesson from the above is that, as global as Internet interconnection appears, problem solving occurs in a micro-social context, and the details matter.

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

This article was published on 5 February 2015 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?

## INTERNET INTERCONNECTION – A TRANSACTIONLESS ECONOMY

The second theme that arises refers to the tension between the Internet's architecture and the economic valuation of Internet interconnection.

Internet interconnection is typically based on the Internet Protocol (IP). This protocol encapsulates the data into datagrams and is responsible for routing these datagrams to their destinations. Since IP is a connectionless packet switching protocol, in theory every request is handled independently, i.e. with no regard to prior or subsequent requests. Routers do not retain session information. In the dynamic routing environment of the Internet, there is a chance that packets which belong to the same application process are routed to their destination on different paths through the network. Equipment can be set up to keep packets that belong to the same flow on the same path, but this is not necessarily so everywhere in the network. These characteristics of IP have been hailed because the overheads are low. But while this protocol may be regarded as beautiful from an engineering point of view, its creators did not design the protocol with economic valuation in mind.

The applicability of economic concepts to Internet interconnection is not self-evident. What are the goods or services in this market for Internet interconnection, if they even exist? How do network actors conceive of entities or transactions when they are faced with a stateless packet switching protocol? "We do not understand what a transaction is", sighs one interviewee who has worked in the field for more than a quarter of a century.

Of course, network operators still engage in economic activities with each other. In fact, they master the elusiveness of the good quite routinely. So one may argue that pointing to uncertainty introduces an artificial problem to a functioning market. The benefit I see in this exercise is that it allows to de-naturalise dominant framings of interconnection economics as framings that are rooted in choice and conventions. From this point of view, the anchor points that network actors use for valuation do not emerge from the good itself, if that is ever possible. Instead, they may be regarded as crutches for valuation.

The *bit-miles* concept introduces bits as an economic entity. The *sending party network pays* and the *costs-by-cause* principle both invoke directionality as a criterion, albeit with opposing poles. And notions of *latency*, peering *among equals* or references to the content that is being transmitted augment Internet interconnection by drawing upon dynamic or even symbolic categories. The technological foundations of Internet interconnection allow for such competing categories. Through this lense, peering conflicts appear not only as conflicts about prices but also about what are to be considered legitimate modes of evaluation.



Network operators are not the only ones who negotiate what characteristics define a product. For some time, economic sociology has argued that so-called quality conventions form the backdrop for markets in general (Favereau, Biencourt, & Eymard-Duvernay). However, both due to the Internet's immaterial character and to the way that Internet interconnection works technically, the level of underlying uncertainty appears to be significant here.

#### THE ROAD AHEAD: RULES AND STRATEGIES

So how do the claims – that networks vary, that operators have limited control over their network's fate and that the structure of Internet interconnection challenges economic valuation – answer the question why and how networks interconnect? They constitute a first step in unpacking this technologically mediated market. Some of the uncertainties that network actors face at the core of the Internet have become evident. The next step for research will be to explore the strategies, arrangements and rules used by network actors within what many refer to as a community. ♦

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## HIIG HOSTS THE 10TH GIKII CONFERENCE

**“Only in #gikii you hear the phrase ‘Arduino-enabled Disco-pants’ in a serious presentation.”**

🐦 Tweet by Andrés Guadamuz @technollama

The future doesn't look exactly as we imagined, only a handful of us get to live in space, there are no hoverboards and flying cars, and no jetpack in sight. Disappointment abounds. But look closely and the future is more interesting than we imagined. You can talk to your computer, and there is a good chance that it will understand you and respond. A modern pocket calculator has more power than the Apollo 11 computer system. You can talk to your family on video anywhere in the world. Phones are ubiquitous; moreover, they have become true multimedia mini-computers that allow you to make your content available to anyone instantaneously. There are robots in our houses and skies. You can purchase reasonably affordable portable tablet devices that put to shame anything depicted in Star Trek. You can print designs downloaded from the Internet. And things are just starting to get interesting. We are about to get true virtual and augmented reality, and holograms! But not everything is nice, with the advances we have fears of Artificial Intelligence wiping out humanity, serious privacy concerns, the fear of economic meltdown and environmental disaster.

Gikii has been at the forefront of thinking about legal issues well ahead of the curve. It tackled 3D printing before the mainstream. It dissected augmented reality, robots and drones before they were cool. It's made up of geek lawyers who mash-up popular culture, technology, and law.

It was a great pleasure having you, Gikiis.







“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.”

## HOW DOES DIGITALISATION INFLUENCE FUNDAMENTAL RIGHTS IN EUROPE?

Matthias Spielkamp, founder and publisher of iRights.info, co-founder of iRights.Lab, journalist, consultant and member of Reporters without Borders and the Whistleblower Network, has a versatile profile. In this interview Matthias Spielkamp gives insight into his work as visiting researcher at the institute.

What do you like about working as an academic?

First off: the fact that I am a guest researcher at HIIG does not mean I consider myself an academic. It only means that for six months, I work in a more academic fashion than I usually do. What I like about it is the opportunity to take time off from daily management tasks and try to broaden the view on the issues I deal with in my professional life. What I have to acknowledge though: six months is a very short time for this. It takes time to adjust the mindset, and when that's starting to kick in the break is already over.

What research questions do you address in your current project with the Mercator Foundation?

I try to develop an idea of what effects digitalisation have on fundamental rights in Europe and how these have been reflected in European policy making. Now for everyone who's only remotely familiar with the topic, and I suppose everyone reading *encore* is, it is obvious that this question is way too broad to be answered in a succinct way. The idea is to break down this very big question into smaller ones that can then be addressed: What are promising strategies to curtail indiscriminate government surveillance? What kind of accountability measures do we need to – and can we – implement when dealing with automated decision-making processes? What procedures do we need to regulate speech on privately owned platforms? All these are questions researchers at the HIIG have been looking at, so it's the perfect place to brush up on my knowledge.









## FLORIAN SÜSSENGUTH

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Internet and Society? A tiny word that  
makes a difference that makes a difference

*Global Network of Internet and Society Research Centers. Enquete Commission on Internet and Digital Society. Alexander von Humboldt Institute for Internet and Society.* Ever since starting my PhD on the digitalisation of the German parliamentary democracy, as seen through the empirical lens of Internet politics (Netropolitik), I have been wondering about this little, harmless *and*, which effortlessly connects the Internet to society within names of institutions, research clusters and political agendas when written down. What kind of relationship is created between the Internet and society by this *and*, and how are they both in turn defined by it and how does this influence our research? This blog entry is an exploration of possible answers to this question from a sociological point of view.

When things are put on a list they change their meaning. Michel Foucault (1989) showcases an obscure classification of animals containing oddities such as animals belonging to the emperor, sirens, embalmed ones and those drawn with a very fine camel hair brush (Jorge Borges as cited in Foucault, 1989, xvi). Read

on its own, every entry is quite clear in its meaning. And yet, we wonder what kind of hidden connection binds those entries together on that list. In *The Order of Things* (1989) – showing how lists structure our thought – Foucault induces us to ask ourselves exactly this question. Even more than a rational argument, the feelings of disbelief and amusement we experience serve to illustrate his point: to reveal how lists – as examples of ordering the world – enable knowledge and form its horizon at the same time.

This detour opens up the general possibility to realise that knowledge, and what counts as self-evident, is not an essence contained within singular terms, but rather contingent upon the way in which we connect words. Put together on a list, the Internet and society develop a relationship, which requires as much an explanation as that between animals that from afar look like flies and those that just have broken the water pitcher. So what ways of thinking are opened up to us by connecting the Internet to society by the tiny word of *and*?

#### MORE THAN A MEANINGLESS LINGUISTIC ACCIDENT?

The first possibility would be to read the *and* as the purely syntactic connection between two words with no further relationship whatsoever implied. This explanation would not only be quite unsatisfying, it would automatically raise the question of why the way of putting the words together like this is not just a remote grammatical possibility of the

English language, but is a construction that is actually used to name not just one institution, but multiple ones. The next possible answer is the most obvious one: the *and* is intended to limit the scope of both terms to their area of overlap. It might very well be that this was the creator's original intention when brainstorming the list. It looks elegant on

paper, promises a way to logically delineate the focus of inquiry and is quite short, too. As an added benefit this calculus can even be visualised as a neat Venn diagram, with the Internet and society depicted as overlapping circles, their intersection constituting the relevant topics.

This blog entry would be done at this point, if it were not for one thing: the tendency of communication not to feel very constrained by logic or by the intentions of those creating lists, names and distinctions. Our case here is no exception. The best illustration of what happens to this logically unambiguous construction when confronted with social practice can be found within the German Bundestag. In 2010 the German parliament tasked the Enquete Commission on Internet and Digital Society with mapping this intersection of Internet and society in regards to its political significance, both for politics itself and for policy-making.

#### CLEAR THEORETICAL DEFINITIONS VS. WAYWARD SOCIAL PRACTICE

As the commission began its endeavour to map this #Neuland, this political virgin soil formed by the overlapping of the two circles, something unexpected happened: rather than forming a neatly bounded intersection – which then could be isolated and explored in minute detail – the two circles began to dissolve each others' very essence. In the eyes of the commission no part of society could safely be identified as being completely unaffected by the Internet anymore, in that more and more practices and contextures in which digital media play or could play a role came into view. At the same time, all the attempts to clearly delimit the Internet from other forms of technology outside the scope of the commission failed when confronted with the multitude of mutually exclusive and contradictory definitions found within the various stakeholder statements, expert reports, and public discourse.

One turn of phrase, used by virtually all of the German net politicians I conducted interviews with, best describes this experience of a practical collapse of meaning. With a sigh escaping their lips, they asserted that Netzpolitik and the task of the Enquete Commission truly is a Querschnittsthema, a cross-cutting topic transcending all established and clearly defined political fields. Contrary to the original intention, the logical definition of a research area of Internet and society or of a policy field of Netzpolitik was not the answer to the question of their delimitation at all. In practice Internet and society and Netzpolitik came instead to be labels of exactly this problem of failing demarcation. It was not a better logical delineation that came to the aid of the Enquete Commission in the end. It was the limited resource of time – and the momentum of parliamentary organisation – which instead narrowed down the theoretically limitless field of inquiry created by two static circles breaking down into circular reasoning. The Enquete Commission escaped being trapped in an endless process of unfolding this

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## THIS IS AN ARTICLE BY **FLORIAN SÜSSENGUTH**

This article was published on 9 January 2015 on the HIIG blog. Florian Süssenguth is an Associate Researcher at HIIG. He teaches and conducts his research at the Institute of Sociology at Ludwig-Maximilians-Universität, München. He is interested in empirical research on practices of data and discourses of digitalisation within different social contexts and their implication for the formulation and advancement of theories of society and of social differentiation.

## **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 the Associate Researchers provide input from diverse backgrounds and help to cover topics and knowledge beyond the HIIG's agenda.

paradox by being forced at one point to decide on what to focus on and what to exclude. In the end, a broad range of task groups dedicated to specific intersections of digital media and social practices, loosely oriented along established political fields such as labour, education, or various legal areas, began their work – unburdened from the task of clarifying the relationship between the Internet and society in regards to politics as a whole.

#### A GENERIC LABEL OR A TOOL OF RESEARCH SENSITIVE TO DIFFERENCE?

Although tracing how the dynamics intrinsic to organisations – and especially time pressure – serve to resolve problems of logical ambiguities is certainly exciting from a sociological point of view, we still have not arrived at a satisfying answer referring to our initial question: What kind of relationship is implied by the *and* connecting the Internet to society? Learning from the practical experiences of the Enquete Commission, could it be that listing Internet and society in the end does not denote a generalised interest in the intersection of both as visualised by a Venn diagram? If this is the case, then, society might just be a stand-in for specific social spheres influenced by the various technologies, practices, and communications assembled under the label of the Internet. In this sense, the terms would serve as nothing more but conceptual placeholders for any number of more specific topics such as law, politics, economy or science, and the Internet.

Looking at the Enquete Commission, as well as at the research institutions carrying Internet and society in their names, this seems to be getting closer to the practical meaning of the connection of those two terms by the word *and*. Nevertheless, from my point of view, even this leaves something to be desired. Put like this, the construction Internet and society remains on the level of an institutional umbrella, which might be necessary to acquire funding and support to start researching specific phenomena or to initiate political discourse but that is to be left behind at the first possible opportunity to get actual political or scientific work done. Even if we try to leave the overarching label of Internet and society behind to dedicate ourselves to the research of specific practical issues, some of its residue clings to our inquiries and makes itself known.

Research into the relationship of politics and the Internet reveals that, in order to understand it, we cannot think within a political logic only. Internet governance for example is better understood as an attempt to find modes of social coordination, which are able to translate between the heterogeneous orders of worth represented by the participating stakeholders. The result is not pure politics and the goal is not harmony, but better described as a polyphonic arrangement of perspectives instead. Even more: to explain differences in regulatory regimes of digital administration the heterogeneity of local contexts and cultures of practice have to be taken into account.

To understand innovation in times of digital media we learn to conceptually shift the focus away from individual creativity and the old idea of the lone genius creating knowledge. Stressing the importance of assemblages of knowledge production, accessibility and popularisation reveals how digital infrastructure changes science as much as paradigm shifts resulting from new theories and methodologies, instead.

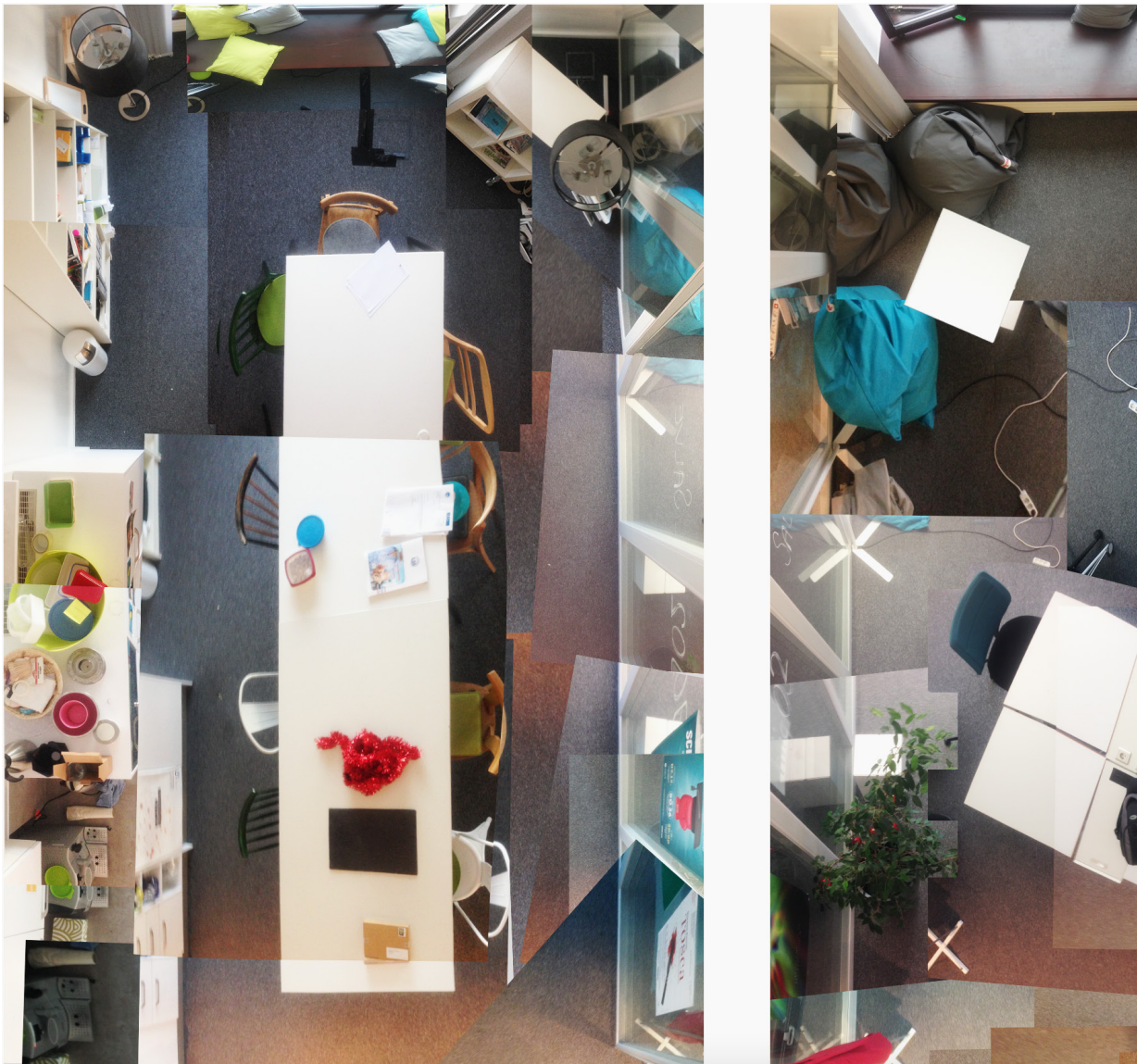
Last but not least: Stating that code is law is not about the implication that computer code will replace law. It draws attention to the fact that law itself is but one form of stabilising social structures of expectation among others and that the interplay of those heterogeneous forms of conditioning social practice is what needs to be explored instead. Dedicating ourselves to performing research into very specific issues of digitalisation thus reveals itself to be anything but a manoeuvre to avoid the big question of Internet and society. It is within each topic of digitalisation that we learn again and again that we are only able to make sense of it when taking into account other contextures, their perspectives, logics, and dynamics, too. Attempts to narrow down research into the Internet and society, to the Internet and the economy, to the Internet and the law, to the Internet and politics etc. for this reason fail in practice.

#### INTERNET AND SOCIETY: A PROMISE MADE

Society is not some abstract conceptual placeholder and no macro-level concept best left to philosophers and sociologists, far removed from empirical inquiries. It is a clear notion of society that allows us to put the experience of the inescapable social embeddedness of our topics into words and to explore its practical ramifications. Internet and society then is not about locating the Internet within one clearly delineated part of society, but about opening up a shared empirical perspective on our various phenomena: Which role do digital media play in the constitution, reproduction, and transformation of the assemblage of contextures called society and how is the specific practice I am researching embedded into it? In the end, the list created by and is not about fixing an essence of the Internet and of society in a definite answer. As an empty signifier the *and* can enable us to ask our questions at an adequate level of complexity instead. This is the meaning contained in names invoking Internet and society and the promise that institutions carrying them have to fulfil. ♦

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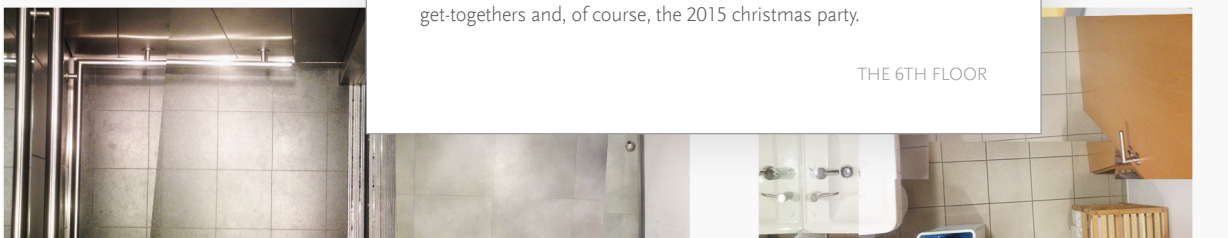
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## #SONNENDECK

The 6th floor was known as the *sun deck*, with its breathtaking view over Berlin's rooftops. Here, the Management team kept daily business running: administration, events, communications, accounting, or pep talks during PhD crises. Large windowsills served the function of phone booths or meeting points, while the HIIG kitchen was the vibrant heart of the institute. It was the place to be for brownbag lunches, after work get-togethers and, of course, the 2015 christmas party.

THE 6TH FLOOR









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# RESEARCH REPORT 2015

**RESEARCH REPORT 2015**

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- Internet Policy and Governance
- Internet-enabled Innovation
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Network and international relations . . . . . R.179

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The relationship between society and the Internet can be analysed from various perspectives. Research on the digital society often addresses specific phenomena without having a sufficient theoretical or conceptual basis and empirical evidence. HIIG aims to contribute to a broadening of both the theoretical and empirical foundations of future research on the digital society.

In 2015, the Alexander von Humboldt Institute for Internet and Society (HIIG) team focused on completing initial research projects and publishing their results, as well as furthering ongoing research projects. At the same time, we sought to establish collaborative relationships with other research institutes and potential funding organisations. In addition, we strengthened our event calendar with events such as the annual Early Stage Researcher Colloquium and the monthly Digitaler Salon. Other activities focused on raising external research funds from both public and private sources. This focus on third-party funding is also in line with the recommendation by HIIG's board of trustees to broaden our funding base.

2015 research objectives:

- Focus on publications and academic output, esp. highly recognised discipline-based journals
- Support the doctoral programme and develop an alumni programme to ensure that alumni remain highly involved in and supportive of the institute's activities
- Stabilise the NoC and international relationships/fellowship structure
- Support research transfer through topic-oriented events and communication, esp. preparation and fundraising for Internet Research 17 (AoIR annual conference in 2016)
- Develop a long-term research strategy

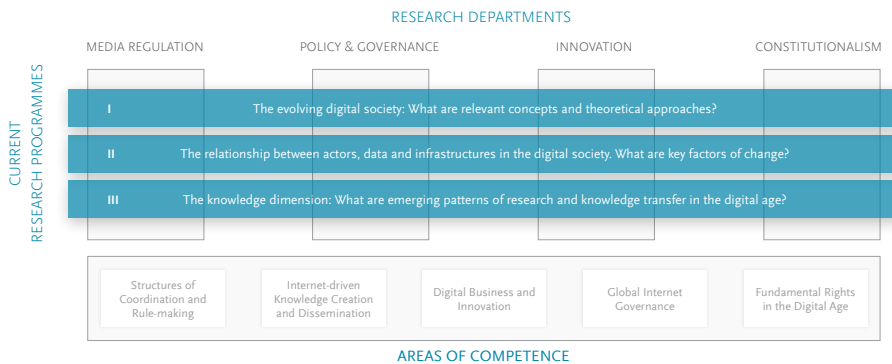
As in previous years, it has been important to secure long-term funding for the institute and succeed in evaluated third party funding applications. For this purpose HIIG set up the Internet and Society Foundation with at least one (or a group of three) institutional funders in 2015.

## RESEARCH PROGRAMMES AND DEPARTMENTS

The consistent focus on academic output resulted in a wide range of publications and conference contributions on an international level and led to some highly regarded conferences within the research community. HIIG research teams worked within their respective fields of expertise: **Internet and Media Regulation, Internet Policy and Governance, Internet-Enabled Innovation, and Global Constitutionalism and the Internet**, but also dedicated some time to refining a long-term, programme oriented research strategy to further transdisciplinary exchange and joint research at the institute. Read on for details of several key aspects from the overarching research programmes and research departments.

## ADVANCING TOWARDS ACADEMIC QUESTIONS AND PROGRAMME-ORIENTATION

Since 2014, the HIIG team has been working to advance its research agenda and raise its academic profile. The following graph shows an outline of the structure that will be one core element to guide the institute's research development:



The research agenda is based on two elements: research programmes and areas of competence. Research programmes are expected to cover a defined period of time and be driven by broad research questions addressed by the institute's departments. A senior researcher and at least one director will be responsible for developing and pursuing the specified research questions. Projects contribute in various ways to addressing the research questions.

HIIG's areas of competence reflect internal expertise. They encompass long-term research interests, common methodological skill sets, and the theoretical inclinations of the institute's members, which the institute wants to highlight to stakeholders who may be interested in potential partnerships independent of specific projects or programmes. Areas of competence may also emerge from collaborative activities with external partners. Current areas of competence include: Structures of Coordination and Rule-making, Digital Business and Innovation, Internet-driven Knowledge Creation and Dissemination, Global Internet Governance, Fundamental Rights in the Digital Age.

Neither research programmes nor areas of competence function in a top-down fashion; instead, they create a structure that facilitates the research planning process. The individual questions contributing to the programmes will be specified in 2016. The research programmes will be evaluated and – if necessary – recalibrated on a regular basis depending on the research outcomes and new developments in the sphere of Internet and society.

## 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, up until now, been mostly 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 NoC.

One of our key interests in 2015 was the role of online intermediaries. They have become a new type of powerful institution in the 21st century; they shape the public networked sphere and are the subject of intense and often heated policy debates. One contribution to our research programme on the evolving digital society was an international case study analysing online intermediary governance issues from multiple perspectives, and in the context of different cultures and regulatory frameworks. A synthesis paper (Gasser/Schulz (2015): *Governance of Online Intermediaries: Observations from a Series of National Case Studies*) distills the key observations made in countries and regions like Brazil, the European Union, India, South Korea, the United States, Thailand, Turkey, and Vietnam into one paper. This paper puts the focus on the rapidly changing landscape of intermediary governance at the intersection of law, technology, norms, and markets.

Another report centred on the potential misuse of communicative power by “information intermediaries” (Schulz/Dankert (2015): *The Power of Information Intermediaries: Phenomena, Structures and Regulation*). It aimed at supporting the political process of the Bund-Länder Commission, which dealt with the issues of intermediaries in a separate work group. The main topic of the report was the question of what level intermediary regulation start on and what mechanisms can be used to implement it. It did not, however, tackle the more general question, of whether there is a need to regulate intermediaries. Firstly, the term *information intermediary* was defined and its operational characteristics were explained. The report then reflected on the expectations regarding intermediaries’ functions, to then illustrate possible problems and phenomena. It discusses the question of whether competition and anti-trust laws can limit a potential misuse of power. The report concluded with a portrayal of first regulatory approaches.

As a part of another NoC research project on **Internet Governance** we delivered a case study describing and analysing the process by which the cryptocurrency Bitcoin revised its core code to accommodate a new feature (Oermann/Toellner (2015): *The Evolution of Governance Structure in Cryptocurrencies and the Emergence of Code-Based Arbitration in Bitcoin*). Since cryptocurrencies in general aim to operate without a central agent, it is difficult to resolve disputes. To address this, Bitcoin added *multi-signature transactions* as a new functionality. Our case study on that change

examined how the open source community of Bitcoin is able to maintain a stable codebase that can serve as a basis for an entire form of currency, while still making necessary improvements. We found that this is secured by elaborated (meta) structures governing the development processes itself. Furthermore, the case study showed that the decision-making processes regarding transformations in Bitcoin's governance structure are not as transparent as one might expect given the cryptocurrency's commitment to open source.

Other significant parts of our research are directly linked or even incorporated into the projects of the **Network of Centers (NoC)**, a federation of Internet research centres located all over the world. For more information, see below.

## 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 socio-cultural, technical, and legal norms contribute to ordering digitally networked environments. Following up on the conceptual discussion paper in 2014 (Hofmann/Katzenbach/Gollatz (2014): *Between Coordination and Regulation – Conceptualizing Governance in Internet Governance*. HIIG Discussion Paper Series No. 2014–04, Berlin), we have refined this theoretical perspective in workshops and presentations. The considerably revised concept paper has been accepted for publication at the A-Journal *New Media & Society*.

In our lead project **Circulation of Cultural Goods** the focus in 2015 was on data analysis and dissemination. We presented and discussed the findings of the multi-method case study on imitation and innovation in the games sector at relevant academic conferences and leading business events. The project addresses the questions of how an innovative sector with huge turnovers can remain profitable without clearcut IP protection and how developers handle the tension between legitimate imitation and innovation. The results, which are drawn from 24 interviews with developers and legal experts, a panel discussion at the International Games Week, and an expert workshop, indicate that copyright law does not play an active role in developers' daily practices. However, there are no strong social norms shared within the whole sector about the fine line between imitation and inspiration. Considerable differences were found between so-called indie developers and game creators working in larger companies in how they understand game development, evaluation criteria, and the tension between secrecy and the sharing of early prototypes. Despite those differences, there is consensus within the sector that stronger legal protection would restrain creativity rather than regulate the market for the better. After unsuccessful bids in highly competitive funding-schemes in 2015, we are continuing the collaboration with CREATE in Glasgow and IViR in Amsterdam to further empirical copyright research in a systematic and comparative way.



As digitalisation in all kinds of domains continues to rapidly develop, we intensified our engagement with infrastructures of the digital society throughout the year. To contribute to the research programme on **The Relationship between Actors, Data and Infrastructures** we started developing a general research perspective on the governance of those technological structures, which focuses on their embeddedness in societal processes and settings. In this line of research, we engaged in very productive discussions on the infrastructure for Car2Car-Communication with various members of the industry; this resulted in a research agenda currently seeking funding. The research on the social dimension of Internet interconnection conducted by PhD candidate Uta Meier-Hahn received very positive feedback in 2015 from academia as well as from the industry. Her presentation of preliminary results on how trust and distrust among network engineers influences global Internet connectivity at TPRC 43 in Washington was complimented by David D. Clark, co-inventor of TCP/IP, as a “great paper (...) talking about why it is that the Internet actually works”. At the UN Internet Governance Forum in Brazil, Uta Meier-Hahn convened an expert workshop that addressed how Internet interconnection is increasingly coming under regulatory pressure – engaging in a conversation that is likely to be of concern for the Internet community for some time to come.

In the midst of a heated political debate about how social media companies handle user harassment, hate speech, and extremist content on their platforms, the project **Freedom of Expression in the Quasi-public Sphere** has entered the data collection and analysis phase. Having spelled out the networked logic of social media platforms and their governance in theoretical terms, we are now using qualitative methods in order to uncover changes to platforms’ content rules and the public discourse around it. The evolution of private governance of user content by social media companies appears to be transforming gradually in response to user growth, liability risks and public criticism, rather than as radical changes.

In 2015 the open access journal on internet regulation **Internet Policy Review** which is led by the Policy and Governance team developed into a full-fledged journal including thematic issues, visibility at key conferences, and a new partnership with the CNRS’ Institute of Communication Science (ISCC) in Paris.

In 2016 we are especially looking forward to the new project **Networks of Outrage** funded by VW-Foundation. The project will look into online hate speech and the emergence of right-wing extremism by analysing social media traces and conducting on-site research.

#### INTERNET-ENABLED INNOVATION

HIIG’s entrepreneurship research team offers PhD-led *Startup Clinics* to discuss challenges with founders and guide them to a network of high-level experts. During the past two years, we have conducted qualitative interviews with more than 200 startups in our Startup Clinics. Entrepreneurship studies at HIIG are part of a multidisciplinary tradition covering areas such as business models, financing, sales, HR, and law. This adds different perspectives to our understanding of the

factors influencing Internet-enabled startups. Using content analysis, we combine 391 relevant topics, which we were able to summarise into 39 factors. We have identified five core factors: entrepreneurial spirit (motivation and commitment) of the core team, the core team's network, tech resources, entrepreneurial experience within the team, and marketing cooperations. Four out of these five important factors are linked to the people within a startup. These factors play an important role in Internet-enabled startups. Our findings provide ideas for policy makers who want to improve the situation for startups in Berlin. We have published a paper that summarises these findings in the proceedings of the Strategic Management Conference in Rome. Additionally we have published on effects of regulation instruments on startups, on business models for startups and on entrepreneurial behaviour at the level of national innovation systems. To share knowledge with the startup community, we offer short videos in a *Knowledge Base* to address specific questions founders may have as they move through the entrepreneurial process. This has been supported by the project **Fostering Engagement with Gamification: Review of Current Practices on Online Learning Platforms** which seeks to better understand the phenomenon of gamified online learning as a new way to boost the level of students' engagement. We aim to provide a summary of how experts are thinking about the design and implementation of gamification in online learning environments.

Our three-year research project **User Innovation in the Energy Market** investigates the role of consumers and *prosumers* in that market. Despite the debate about the new role of users in a sustainable and smart-energy system, user-driven innovation has been largely absent from the energy sector. From now until 2018, we will be analysing the factors driving users to innovate and to collaborate, as well as the factors that impede such behavior. In addition to analysing existing innovation communities and user careers, the research project aims to establish practical recommendations on how user-centred innovation and business models increase the role of innovative prosumers and how established companies in the energy market can make use of such phenomena. We are currently conducting a systematic literature review on user innovation in communities. To date we have screened more than 4,800 scientific articles to understand and summarise the research landscape in this field of interest. Furthermore, we have already conducted more than 40 stakeholder and expert interviews and visited user innovators in East Germany to gather data for case studies. In our research, we are closely collaborating with researchers from the University of New South Wales, Australia. Our shared interest is especially linked to the enabling role of Internet communication technology, and in particular the Internet.

Our **Open Science Project** contributes to the research programme The knowledge dimension and was awarded the **Deutschland – Land der Ideen** award by the German Federal Government. In addition, we organised a track at the General Online Research conference on openness. The team's research was focused on two themes: firstly, data sharing – we published the first results from the data sharing survey and submitted a journal article based on the data set. Secondly, we submitted a research article on how citizen science projects come to life to an academic journal concerned with the interactions between science and the public. We also closely collaborated with research funding groups on the topic of open science. We gave a talk in Brussels to Science Open, the parent

organisation of the European research funders. In Germany, we are also engaged with the research group Science 2.0 and BMBF to develop novel metrics for digital research. One of our researchers gave the keynote speech at the ten-year anniversary event of *Knowledge Exchange*, a collaboration of six major research funders in Europe.

A research collaboration with the University of Würzburg that investigates 3D printing was awarded the best paper award at this year's European Conference on Information Systems conference. In the project we investigate how users remix existing designs on the world's largest platform for 3D models to create new designs. Remixing is a known concept in the realm of creativity. However, it is hard to study, as firms and individuals are reluctant to name their sources of inspiration. On Thingiverse (the platform for 3D models), users publish all designs under an open license. Everyone is allowed to reuse the designs but has to cite the original. This unique setting allowed us to study the remix process in detail. On the basis of the conference article, we developed a journal article that we submitted to a leading IS journal.

#### GLOBAL CONSTITUTIONALISM AND THE INTERNET

The democratic legitimacy of EU decision-making could considerably benefit from the enhanced application of e-government and e-democracy. This concept, along with some recent developments, was presented and discussed at conferences in Saloniki (ECLN) and Rome. The Internet in particular offers prospects for achieving a form of global democracy. Some fundamental ideas for this were presented at a conference in Frankfurt and further developed for the *Congreso del Futuro* in Santiago de Chile: They are based upon the principles of multilevel constitutionalism, informed by experiences with Internet governance, and related to certain benefits from the Internet; these include benefits for equal borderless information, transparency, public deliberation spaces, direct participation, and e-voting. It is clear, though, that democratic global ordering presupposes 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 including 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 as a part of the HIIG research programme on the relationship between actors, data and infrastructure. We identified a lingering misinterpretation of the legal rules promoted by a coalition of powerful public and private data controllers and commissioners; this resulted in a failed first attempt to implement data protection by design into the (German) law in the 1970's. On the other hand, a thorough examination of four major internet players' current privacy policies revealed a framing of privacy that makes these players appear not as attackers but as guardians of their users' privacy. We participated in the first round of a transatlantic digital dialogue, organised by the *Stiftung Neue Verantwortung* (Ben Scott), and based on the joint preparatory work on mass surveillance. The aim of the report is to reach a transatlantic understanding in three areas; in the first stage, this includes oversight and transparency, extraterritorial access to data, and cyber-security and strong encryption.

In the research project **Digital Civil Disobedience**, we developed a taxonomy characterising three types of digital disobedience: symbolic digital disobedience, disruptive or invasive digital disobedience, and disobedient digital direct action. Notwithstanding the taxonomy, there is a grey area; many cases fail to meet important features of civil disobedience in the proposed conception – for instance, because they involve aspects like anonymous action or the automation of digital protest.

Further insights on security issues have been gained within the framework of the **KORSE** project on the law of civil security in Europe. Regarding the security of critical infrastructure, German and EU legislation on cyber-security is likely to change the European informational architecture and administrative structures. This may lead to greater government data pools, with security-related information shared between government agencies across the EU. Even though the integration of information systems has not met expectations, the nucleus of a digital security law needs to be further developed. As private corporations are accumulating vast quantities of data too, much of it personal data — they are voluntarily granting governmental agencies, especially law-enforcement agencies, access to this data. The emergence of a private-public cooperation raises particular issues with regard to the individual's fundamental rights and the rule of law, which the project is addressing. In the field of international cybercrime legislation, we note that the full and EU-wide implementation of the Directive on Attacks against Information Infrastructures was completed in September 2015. Since the United Nations silently gave up efforts to establish a UN Convention on Cybercrime, it is an open question whether focusing instead on capacity building through its various sub-organisations and in cooperation with additional international organisations will be sufficient.

Copyright is particularly under pressure due to the digitalisation of works and use. The research in the **dwerft** project analyses the legal framework for creative re-uses of audiovisual works. The researchers developed a taxonomy of different creative reuses (covering, for example, fan vids, remixes, mashups, documentaries, compilation films). We found that exceptions to copyright come with significant insecurities for users, while they leave considerable room for creative re-uses if the underlying fundamental rights are adequately considered. In terms of the preservation of orphan filmworks, the research suggests that the EU Orphan Works Directive and its implementation will probably not be sufficient to allow for the adequate archiving and preservation of orphan audiovisual works such as films or computer games.

The project **Digital Public Administration** focuses on structural changes to administrative processes and institutions. We collected evidence from European e-health pilots, showing that the success of major IT projects to modernise the provision of public services depends on the interaction of (at least) three different levels: the technological, the organisational, and the legal. These levels seem to be rarely considered jointly when IT modernisation is brought into public administration. The project strives to overcome this through its interdisciplinary approach, with the aim of better understanding difficulties in making proper use of IT and finding practical solutions.

## NETWORK AND INTERNATIONAL RELATIONS

### NETWORK OF CENTERS

For the International Network of Internet and Society Centers (NoC), 2015 was a year of growth and consolidation. Under the organisational management of the Nexa Center for Internet & Society in Turin, the NoC has gained members from all over the world. With a current total of 63 members from more than 25 countries, the NoC has grown to be the biggest cluster in Internet and society research. This enables us to collaborate with partners from all parts of the world, contributing to a better understanding of the Internet, and to help researchers from all over the world to connect with the international research community. The close relationship between the centres allows researchers to easily connect with colleagues for discussion and inspiration, and helps them to understand foreign developments.

2015 has also been a year of consolidation. The network's first two collaborative research projects were brought to an end, both resulting in the publication of several case studies, as well as concluding observations. Each of these projects – on **Internet Governance** and **Online Intermediaries** can be seen as role models for future international cooperations and as a success for all the researchers and centres involved. For more information about the two projects, visit the NoC's publication sites on [publixphere.net](http://publixphere.net) and [SSRN](http://SSRN).

Of course, there have also been a number of events hosted or attended by NoC members; most notably the annual NoC conference, which took place in Hong Kong in November. Over 60 researchers from almost 30 centres followed the NoC's invitation to reflect about emerging topics and research communities, give updates about global research and find new areas of collaboration. The main topics were the challenges and opportunities arising in a digital Asia and the need to tackle online hate speech. New research projects related to both topics are to be introduced shortly.

With these new ideas and visions regarding content as well as organisation, the NoC is sure to thrive in 2016.

### FELLOW PROGRAMME AND VISITING RESEARCHERS

The Summer Fellow Programme offered in 2013 and 2014 was continued in 2015. There were 27 applicants from 15 different nations. After the selection procedure, including interviews with eight of the applicants, four summer fellows were selected in 2015; one for each research department of the institute. The fellows came from UK/South Africa, Germany, Iran, and Denmark/Germany. The timeframe and duration of the stay was rather flexible and three stays were extended after summer.

All fellows were assigned a research partner from the respective research department and were invited to participate in the joint activities of their research departments. 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, a joint research project was written between Media Regulation fellow Farzaneh Badii and Policy & Governance director Jeanette Hofmann and a paper by fellow Jonas Kaiser and Cornelius Puschmann was accepted for the ICA conference.

All in all, the summer fellow programme of 2015 turned out to be very beneficial – both for the fellows and for the institute. Two fellows will continue their collaboration with HIIG as long-term associated researchers. After three years of successfully conducting the fellowship programme, the challenge for 2016 lies in processing the increasing number of applications – even outside the formal application period – and in selecting the most promising and best-fitting researchers for HIIG. Since restricting the fellowship to the summer has proven to be too rigid, the timeframe has been loosened for 2016. This means we must ensure that even if not all the fellows can be in Berlin simultaneously, the programme will still create one fellow group that will enable each of the fellows to gain as much from each other as from the researchers at HIIG.

In addition to the fellowship programme, HIIG also served as a host institution for visiting researchers (a total of seven in 2015) coming from a variety of disciplinary backgrounds and countries, including Turkey, the Netherlands, Brazil, Spain, and Germany. The visiting period varied from one to five months. The visiting researchers initiated and participated in events such as roundtable workshops (e.g. Christian Ernst), Brown Bag Lunches (e.g. Bendert Zevenbergen), and joint projects (Oriol Borrás with the Gamification/MOOC Project); they were also present for some of the institute's quarterly meetings.

## 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 three 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 21 doctoral students at HIIG. The first theses were submitted in 2015.

All doctoral students are given the opportunity to organise workshops concerning their own topics of interest and to attract (international) researchers to HIIG. In 2015, there were events such as a workshop on *Civil Disobedience Beyond the State*, several open HIIG Clubs, and the Early Stage Researcher Colloquium (more details to be found in the events section).

Many of HIIG's doctoral students take advantage of the opportunities to actively participate in international conferences (see examples below), use the travel fund for research stays abroad, and participate in training sessions and workshops at Berlin's universities or graduate centres. Since academic events on the specific methods for Internet research are not part of the usual range of courses offered by graduate schools, it is not exactly easy to find lectures in these areas. Also, as courses are often not tailored to the needs of HIIG's doctoral students, it is necessary to organise many of them as in-house events, e.g. presentations/panel moderation sessions, individual training sessions on academic writing in English, media training (see section on communication).

The strong integration and networking activities of HIIG's doctoral students with the scientific community should also be highlighted: The past year was characterised by several invitations to national and international academic events, paper presentations and publications. An overview can be found in the monitoring of the institute's activities on pp. M.194 – M.195.

Due to the expected upcoming graduations, there will be two important new tasks for the year 2016: the establishment of an alumni programme (including an alumni day, publication support, an alumni network, for example for mentors, new talent etc) and a new phase of openings and applications to recruit new candidates for the doctoral programme.

## TRANSFER OF RESEARCH THROUGH EVENTS, PLATFORMS, AND COMMUNICATION

HIIG has established itself as a source of information and knowledge for political actors, civil society, and the economy. Our research is seen as an integral element to allow stakeholders and the public to participate in a constructive dialogue on relevant social, economic and political issues.

### EVENTS, WORKSHOPS, CONFERENCES

The institute strives to open up its academic work and research results for questions and insights from these target groups. In 2015, we continued our existing event series and offered a range of different formats. We not only initiated several public keynote and panel talks but also frequently invited representatives from politics and the economy to academic workshops and roundtables emerging from the institute's research activities.

The following selection reflects the range of different topics and target groups:

- Public lunch talk with Peter Thiel (Berlin, January 2015, ~ 500 guests)
- Save Game – Legal Challenges in Game Preservation (Berlin, April, ~ 30 guests)
- Civil Disobedience Beyond the State II (Berlin, May, ~ 50 guests)
- Public lecture by Gabriella Coleman: Weapons of the Geek (Berlin, May, ~ 100 guests)
- Innovation in the games sector: protection vs. liberalisation (Berlin, June, ~ 40 guests)

- Public Startup Clinics talk: How to find the right co-founder? (Berlin, September, ~ 100 guests)
- Early Stage Researchers Colloquium 2015 (Berlin, September, ~ 90 guests)
- Public keynote dialogue: Making sense of Big Data (Berlin, December, ~ 170 guests)

In 2015 the institute also hosted several nationally and internationally recognised meetings and conferences and welcomed numerous researchers to Berlin. These activities strengthened existing networks and enhanced new partnerships, further increasing the visibility of the institute and facilitating possible future collaborations.

- iLINC Best Practice Sharing Event (Berlin, May, ~ 50 guests)
- 9. Berliner DH-Rundgang at HIIG (Berlin, May, ~ 30 guests)
- 10th GikII conference 2015 in Berlin (Berlin, September, ~ 50 guests)
- Media Communication between Complexity and Simplification. Theory, Methods, Practice; (Jahrestagung zweier DGPK-Fachgruppen) (Berlin, November, ~ 90 guests)

Under the title *The Internet as challenge for state, law and society*, the institute organized a weekly lecture series from April to June held at the law faculty of the Humboldt Universität zu Berlin. Selected speakers shed light on different topics around Internet law and the current challenges of a digitalised society.

Please find below a selection of the speakers who appeared:

- Paul Nemitz, Director Fundamental rights and Union citizenship, Directorate-General Justice of the European Commission: Vorratsdatenspeicherung, das Google-Urteil des EuGH und die Reform des Datenschutzes in Europa
- Reinhard Priebe, former Director Internal Security, Directorate-General Home Affairs of the European Commission: Europäische Cyber-Sicherheitspolitik im Spiegel transatlantischer Verhandlungen
- Norbert Riedel, Federal Foreign Office, Commissioner for International Cyber Policy: Entwicklung, Funktionsweise und Vertrauenswürdigkeit des Internets
- Cornelia Rogall-Grothe, state secretary at the German Federal Ministry of Internal Affairs: Der IT Planungsrat und die Digitalisierung von Staat und Verwaltung in Deutschland und Europa
- Kim Lane Scheppele, Director, Program in Law and Public Affairs, Princeton University. Laurance S. Rockefeller Professor of Sociology and International Affairs in the Woodrow Wilson School and in the University Center for Human Values: The War on Terror and the Deep Dilemma of Evidence
- Ben Scott, Senior Advisor to the Open Technology Institute and a Visiting Fellow at the Stiftung Neue Verantwortung in Berlin. Previously, Policy Advisor for Innovation at the US Department of State: Privacy and Security Policy in a Post-Snowden World

Throughout 2015, we also continued and developed our monthly discussion panel *Digitaler Salon* in collaboration with DRadioWissen as a well-known feature within Berlin's event landscape. Once



a month we invite special guests from academia, journalism and economy to engage in a dialogue with a live audience of 60 people on average, the #DigSal Twitter community, and the listeners of the radio show *Hörsaal* of the nation-wide broadcast service DRadio Wissen. The discussion can also be followed via livestream. The topics in 2015 ranged from user-generated art and religion in the age of the Internet to virtual pornography. At the end of the year, we put a very relevant topic on the agenda — the well-attended November edition discussed how smartphones prove to be vital tools for refugees.

### 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.

In 2015, the journal attracted 40,000 unique visitors for a compounded total of 50 research papers and 100 open editorials. The top three most read papers were "Internet censorship in Turkey" (Akgül and Kırıldoğ, 2015), "Necessary and inherent limits to internet surveillance" (Wright, 2013) and, "Can human rights law bend mass surveillance?" (Joergensen, 2014). The journal organised the panel *Finding a European way on Internet governance* at the Internet conference *re:publica* in Berlin, gave best paper awards at the European Policy for Intellectual Property conference in Glasgow and took part in a panel called *J as in journals: what model of academic publishing will become 'the' standard?* at Wikimedia Germany in Berlin.

The journal has put out four calls for papers in 2015, with the publication of special issues forthcoming. The topics are: *Big data, big power shifts?*, *Regulating the sharing economy*, *Doing Internet governance and Australian Internet policy*. The *Internet Policy Review* has been listed with the Directory of Open Access Journals (DOAJ) since early 2015.

### COMMUNICATION

In 2015 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. To keep track of the high media coverage and to publicise our availability for press requests, the section *HIIG in the Media* was launched.

In order to increase the institute's public outreach and to empower researchers to impart their findings and knowledge, training on media skills (giving interviews on academic content, radio/TV statements/expert interviews) were organised for groups of PhD candidates as well as for postdoc researchers.

Additionally we are working on various academic information platforms and communication tools – including, in particular:

- **HIIG website and blogs by our doctoral candidates and researchers:** While the site is used to provide information regarding the institute and to announce current events (3 308 daily average of visits), the doctoral candidates and researchers regularly provide information on their academic work on [blog.hiig.de](http://blog.hiig.de), helping to shape it as a tool to put scientific results up for discussion at an early stage. (approx. 80 blog posts in 2015)
- **Social Media activities:** regular updates via social networks, alongside the other forms of communication. Results (as of 25 January 2015):
  - Facebook: 2 210 likes (2014: 1 763)
  - Twitter: 3 680 tweets, 2 815 follower (2014: 2 094)
  - Youtube: 65 clips
  - Newsletter HIIG Quarterly (worldwide): 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 (1 286 news articles/posts since 2013, as of January 2016).
- **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 (more than 77 videos, as of January 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.187
Promoting up-and-coming researchers . . . . .	M.192
A German node of an international network in the research area of the Internet and society . . . . .	M.194
Interaction with politics, the civil society, and the economy regarding questions on Internet and society. . . . .	M.195
Securing and developing the institute's work . . . . .	M.201

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
10.01.2015	The evaluation of crowd science in academia and industry research Submitted at: google research grant (declined)	–	Thomas Schildhauer, Cornelius Puschmann, Sascha Friesike, Benedikt Fecher
10.01.2015	Fostering Engagement and Social Learning with Incentive Schemes and Gamification Elements in MOOCs Submitted at: google (confirmed)	–	Thomas Schildhauer, Anna Hansch, Christopher Newman
02.02.2015	Digitale Innovation und Startups – Kollaboration zwischen etablierten Unternehmen und Internet Startups in der Energiebranche Submitted at: RWE Stiftung für Energie und Gesellschaft (declined)	Prof. Dr. Paul Jackson, Edith Cowan University (Australien)	Thomas Schildhauer, Nancy Richter
27.02.2015	Chancen der Nutzerinnovation für den Energiemarkt Submitted at: RWE Stiftung für Energie und Gesellschaft (confirmed)	–	Thomas Schildhauer, Hendrik Send
01.03.2015	OPEN! Methods and tools for community-based product Submitted at: DFG/ ANR (confirmed)	G-SCOP, TU Berlin/IWF, CERAG, Raidlight SAS, Knowable Co, P2PLap	Hendrik Send
04.03.2015	The Global Governance of Privacy Submitted at: DFG (declined)	Prof. Dr. Björn Scheuermann (Institut für Informatik, HU Berlin)	Ingolf Pernice, Björn Scheuermann, Osvaldo Saldias
27.03.2015	Predictive Policing: Current Cases in German-speaking Countries Submitted at: Media Democracy Fund, Ford Foundation and Open Society Foundations (declined)	Matthias Spielkamp, irights	Jeanette Hofmann, Kirsten Gollatz, Osvaldo Saldias
31.05.2015	Special Issue on Big Data Submitted at: Vodafone Institut für Gesellschaft und Kommunikation (confirmed)	CREATe (University of Glasgow)	Jeanette Hofmann, Frédéric Dubois,
04.06.2015	Exploids Submitted at: BMBF (submitted)	Uni Leipzig, Kernkonzept GmbH, xceeth technologies, METOP GmbH, Qualitytype GmbH, TU Dresden Assoz. Partner: Spirit Legal LLP, itm	Wolfgang Schulz, Thomas Schildhauer, Max von Grafenstein
14.06.2015	Networks of Outrage: mapping the emergence of new extremism in Europe Submitted at: VolkswagenStiftung (confirmed)	Online-Redaktion des Standard, Österreich	Jeanette Hofmann, Christian Katzenbach, Julian Ausserhofer, Cornelius Puschmann
29.06.2015	Projektbezogener Personenaustausch mit Australien Submitted at: DAAD (submitted)	Dr. Paul Jackson (Edith Cowan University (ECU))	Thomas Schildhauer, Nancy Richter
09.08.2015	ASSESSORS Submitted at: EU (declined)	NXP Semiconductors Netherlands BV, TomTom International, TechnolutionNederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek, Stichting Katholieke Universiteit, Technische Universiteit Eindhoven, Gemeente Helmond, qKeyQkey, Telit Automotive Solutions, ERTICO – ITS Europe, Freescale Polovodice e Ceska Republika, Vysoke Ucení Technice v Brne, NXP Semiconductors Germany GmbH, Freescale Halbleiter Deutschland GmbH, Der Hamburgische Beauftragte für Datenschutz und Informationsfreiheit, Freie und Hansestadt Hamburg, TomTom Development Germany GmbH, Telit Automotive Solutions SARLTelit, Commissariat à l'Énergie Atomique et aux Energies Alternatives, Freescale Semiconducteur France, Gernalto SAGernalto, YoGoKo, Commsignia, Freescale Semiconductor Romania, Universitatea Politechnica din Bucuresti	Wolfgang Schulz, Jeanette Hofmann, Christian Katzenbach, Max von Grafenstein

SUBMITTED	TITLE/SUBMITTED AT	PARTNER	APPLICANTS
10.09.2015	Ford-Mozilla Open Web Fellows program Submitted at: Mozilla Foundation (declined)	–	Jeanette Hofmann, Frédéric Dubois, Christian Katzenbach, Lies van Roessel
15.10.2015	Blankenseecolloquium Wissenschaft und Digitalisierung Submitted at: Wissenschaftskolleg zu Berlin (submitted)	Deutsche Institut für Wirtschaftsforschung, MaxPlanck-Institut für Wissenschaftsgeschichte	Thomas Schildhauer, Sascha Friesike, Benedikt Fecher
26.10.2015	USE PRIMA DAMA Submitted at: BMBF (submitted)	BMW, NXP und die Stiftung Datenschutz	Thomas Schildhauer, Wolfgang Schulz, Max von Grafenstein

## 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. 162 – 169.

### Publications in the HIIG Discussion Paper Series

Pernice, I. (2015). Global Constitutionalism and the Internet. Taking People Seriously. HIIG Discussion Paper Series, 2015(01).

Hansch, A., Hillers, L., McConachie, K., Newman, C., Schildhauer, T., & Schmidt, P. (2015). Video and Online Learning: Critical Reflections and Findings from the Field. HIIG Discussion Paper Series, 2015(02).

Meier-Hahn, U. (2015). Creating Connectivity: Trust, Distrust and Social Microstructures at the Core of the Internet. HIIG Discussion Paper Series, 2015(03).

Hansch, A., Newman, C., & Schildhauer, T. (2015). Fostering Engagement with Gamification: Review of Current Practices on Online Learning Platforms. HIIG Discussion Paper Series, 2015(04).

Al-Ani, A., & Stumpp, S. (2015). Motivationen und Durchsetzung von Interessen auf kommerziellen Plattformen. Ergebnisse einer Umfrage unter Kreativ- und IT-Crowdworkern. (Motivations and Enforcement of Interests on Commercial Platforms: A Survey among Creative- and IT-Crowdworkers.). HIIG Discussion Paper Series, 2015(05).

Richter, N., Schildhauer, T., Dopfer, M., von Grafenstein, M., Tech, R. P. G., Trifonov, S., & Wrobel, M. (2015). Fördernde und hindernde Einflussfaktoren für Internet-enabled Startups. HIIG Discussion Paper Series, 2015(06).

### 3. Academic lectures and panels

#### Selected competitive/peer reviewed conference presentations

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: Connecting Post-Authoritarian Regimes: internet governance capacity building in Myanmar	International Studies Association General Conference – New Orleans 2015 (Session: Connecting Post-Authoritarian Regimes: internet governance capacity building in Myanmar). Hilton New Orleans Riverside, New Orleans, USA: 19.02.2015	Andrea Calderaro
Panel: Examining the Governance of Globalizing Internet and Information Infrastructure	Conference: International Studies Association General Conference – New Orleans 2015. Hilton New Orleans Riverside, New Orleans, USA: 20.02.2015	Andrea Calderaro
Panel: Unconventional Conflict, Unconventional Means and New Data	Conference: International Studies Association General Conference – New Orleans 2015. Hilton New Orleans Riverside, New Orleans, USA: 21.02.2015	Andrea Calderaro
Lecture/Talk: Transparenz und Berechenbarkeit: Die Industrialisierung der gesellschaftlichen Informationsverarbeitung und ihre Folgen	Privatheit und Quantifizierbarkeit. Organised by DFG-Graduiertenkolleg Privatheit. Universität Passau, Passau, Germany: 26.02.2015	Jörg Pohle
Lecture/Talk: Get Them Involved: Motivational Strategies of Citizen Science Platforms	General Online Research Conference. Organised by German Society for Online Research (DGOF). Cologne University of Applied Sciences, Cologne, Germany: 19.03.2015	Kaja Scheliga
Panel: International Cultures of Creativity and Imitation	Conference: DiGRA 2015: Diversity of Play. Organised by Leuphana Universität. Leuphana Universität, Lüneburg, Germany: 15.05.2015	Lies van Roessel, Christian Katzenbach
Lecture/Talk: Investigating open innovation using business accelerators – A realist methodology	ICQI – The Eleventh International Congress of Qualitative Inquiry (Session: “Constructing a New Critical Qualitative Inquiry”). Organised by University of Illinois at Urbana-Champaign. University of Illinois at Urbana-Champaign, Champaign-Urbana, USA: 23.05.2015	Richter Nancy
Lecture/Talk: Communication Forms and Digital Technologies in the Process of Collaborative Writing	2nd International Conference on Internet Science (Session: Internet and Innovation). Organised by European Network of Excellence in Internet Science. Flagey, Brussels, Belgium: 29.05.2015	Kaja Scheliga
Lecture/Talk: Monetizing user-generated content: Evidence from the German audio-visual industry	EURAM 2015 conference (Session: Slot 3). Organised by Kozminski University, Galatasaray University, University of Economics in Katowice. Kozminski University ('Akademia Leona Kozminskiego'), Warsaw, Poland: 18.06.2015	Urs Kind
Lecture/Talk: How the cognition of the entrepreneurial agent shapes a startup's business model development	R&D Management Conference. Organised by Istituto di Management. Scuola Superiore Sant'Anna, Polo Piagge, Pisa, Italy: 25.06.2015	Dopfer Martina, Sauer Roman
Lecture/Talk: New Business Models for the Television Market – Challenges and Perspectives for TV Production Companies in the Era of Digitalization and Convergence	IAMCR 2015 (Session: Popular Culture Working Group). Organised by Université du Québec à Montréal. Université du Québec à Montréal, Montreal, Canada: 12.07.2015	Lothar Mikos, Anett Göritz
Lecture/Talk: Data Availability and Re-Use: Results from an Empirical Survey Among German Researchers	European Survey Research Association. Organised by European Survey Research Association. Reykjavik, Reykjavik, Iceland: 15.07.2015	Benedikt Fecher
Lecture/Talk: The Origins of the IGF: A Tale of Contingencies and Competing Claims to Power	ECPR General Conference 2015 (Session: Panel 329: The Global Internet Governance Trajectory: Actors and States of Play). Organised by European Consortium for Political Research (ECPR). University of Montreal, Montreal, Canada: 29.08.2015	Jeanette Hofmann

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: Playing without Rules? Regulating Imitation and Innovation in the Games Industry	Annual Conference: European Policy for Intellectual Property (EPIP) (Session: Creativity, Re-Use and Copyright). Organised by University of Glasgow / CREAte. University of Glasgow, Glasgow, UK: 03.09.2015	Christian Katzenbach, Lies van Roessel
Lecture/Talk: You own your content, but... – Tracing changing notions of ownership over user content in social media platform policies	Media Trends 2015: Power and Media: Ownership, Sponsorship, Censorship (Session: Panel 8. Users and Consumers). Organised by Webster Vienna Private University's Media Communications department. Webster Vienna Private University, Vienna, Austria: 12.09.2015	Kirsten Gollatz
Lecture/Talk: Bereitstellung und Nachnutzung von Forschungsdaten in den Geisteswissenschaften	Forschungsdaten in den Geisteswissenschaften (Session: Forschungsdaten in den Geisteswissenschaften). Universität Hamburg, Hamburg, Germany: 16.09.2015	Benedikt Fecher
Lecture/Talk: Creating connectivity: trust, distrust and social microstructures at the core of the internet	2015 TPRC: 43rd Research Conference on Communications, Information and Internet Policy (Session: Innovation 1). Organised by TPRC. George Mason University, Arlington (VA), USA: 26.09.2015	Uta Meier-Hahn
Lecture/Talk: Collaborative Writing in the Context of Science 2.0	i-KNOW '15 (Session: Collaborative Writing in the Context of Science 2.0). Organised by Know-Center GmbH. Messe Congress Graz, Graz, Austria: 22.10.2015	Kaja Scheliga
Lecture/Talk: Internet Governance: Constellations of trust and distrust	GigaNet 10th Annual Symposium (Session: TRUST & ETHICS). Organised by Global Internet Governance Academic Network (GigaNet). Poeta Ronaldo Cunha Lima Conference Center, João Passoa, Brazil: 09.11.2015	Jeanette Hofmann

#### Selected invitations to academic lectures and panels

EVENT ACTIVITY	EVENT	RESEARCHER
<b>International scope</b>		
Lecture/Talk: The Contextual Dimension of Marco Civil da Internet	Lecture: The Contextual Dimension of Marco Civil da Internet. Organised by University of Chile. Universidad de Chile, School of Law, Santiago, Chile: 07.01.2015	Oswaldo Saldías
Lecture/Talk: Creating connectivity: Social Processes at The Internet's Core	ALPIS Symposium on Infrastructuring For The Common Good. Organised by University of Trento. Antica Vetreria, Carisolo, Italy: 13.02.2015	Uta Meier-Hahn
Lecture/Talk: New Regulatory Trends in the Protection of Personal Data	Symposium: International Regulatory Trends on Personal Data Protection. Organised by Global Network of Interdisciplinary Internet & Society Research Centers (NoC). Global Network of Interdisciplinary Internet & Society Research Centers (NoC), Santiago de Chile, Chile: 14.03.2015	Wolfgang Schulz
Lecture/Talk: Kein Recht auf Vergessen – Die Google-Entscheidung des EuGH als Fehlentwicklung des Persönlichkeitsschutzes im Internet	Vortragsreihe ISL Lecture Series. Organised by Institut für IT-Sicherheit und Sicherheitsrecht, Universität Passau. Universität Passau, Passau, Germany: 25.03.2015	Wolfgang Schulz
Lecture/Talk: Empirical Results on Academic Data Sharing	International Conference on Science 2.0. Leibniz Forschungsverbund Science 2.0, Hamburg, Germany: 26.03.2015	Benedikt Fecher
Lecture/Talk: New Business Models for Television: production and value-chains in the era of convergence	New Directions in Film & Television Production Studies (Session: Panel 5 (Waterside 2): Changing technologies and practices). Organised by Success in the film and television industries (SIFTI). Watershed Cinema, Bristol, United Kingdom: 14.04.2015	Anett Göritz, Lothar Mikos



EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: Towards the Digitization of Academic Research	The 6th annual PhD Science Night. Organised by APPROVE – AMC Promovendivereniging. De Balie, Amsterdam, Netherlands: 17.04.2015	Sascha Friesike
Lecture/Talk: Orphan Video Games and the EU Directive on Orphan Works	Save Game – Legal Challenges in Game Preservation. Humboldt Universität zu Berlin, Berlin, Germany: 22.04.2015	Rike Maier
Lecture/Talk: Competency Profiles for Internet-enabled Startups in Marketing and Sales: An Explanatory Qualitative Empirical Analysis	The WEI Business and Economics Academic Conference. Organised by Harvard University. Harvard University, Cambridge, USA: 08.06.2015	Wrobel Martin
Session lead/Workshop moderation: Chile, migración y diáspora en el siglo XXI	Conference: I Simposio Interdisciplinario: Red de investigadores chilenos en Alemania. Chilean Embassy in Germany, Berlin, Germany: 03.07.2015	Oswaldo Saldías
Lecture/Talk: Urheberrecht und Technik am Beispiel von Hostingplattformen	Versprechungen des Rechts: Dritter Kongress der deutschsprachigen Rechtssoziologie-Vereinigungen (Session: Urheberrecht – Technologie – künstlerische Produktion). Organised by Law and Society Institute Berlin, and others. Humboldt Universität zu Berlin, Berlin, Germany: 09.09.2015	Rike Maier
Session lead/Workshop moderation: Working Group: Research	Conference: Annual Conference: Network of Chilean Researchers in Berlin. Goethe-Universität Frankfurt, Frankfurt, Germany: 01.10.2015	Oswaldo Saldías
Lecture/Talk: The Industrialization of Surveillance and the Limits of Community and Social Interaction Theories	Surveillant Antiquities and Modern Transparencies: Exercising and Resisting Surveillance Then and Now. Organised by Excellence Cluster Topoi. Excellence Cluster Topoi, Berlin, Germany: 18.10.2015	Jörg Pohle
Lecture/Talk: Creating Extraterritoriality in the Digital Age	The Algorithmic State: Cyber Challenges to Democracy (Session: Security, Surveillance and Privacy). Organised by University of Haifa. Faculty of Law, Haifa, Israel: 10.12.2015	Jeanette Hofmann
<b>National scope</b>		
Lecture/Talk: Governance durch Algorithmen? "Politics of Platforms" und die Ordnung des Netzes	Vortragsreihe "Kollektives Handeln im Netz". Organised by Institut für Sozialwissenschaft, Abteilung Organisations- und Innovationssoziologie. Universität Stuttgart, Stuttgart, Germany: 13.01.2015	Christian Katzenbach
Lecture/Talk: Offene Wissenschaft: Potenziale und Grenzen	Universität der Künste, Winterschool: Grenzwertig. Organised by Master-Studiengang Gesellschafts- und Wirtschaftskommunikation. Universität der Künste, Berlin, Germany: 17.02.2015	Kaja Scheliga
Lecture/Talk: Lesen und gelesen werden: Über den Datenhunger der digitalen Gesellschaft	Seniorenuniversität der Charité-Universitätsmedizin Berlin (Session: Lebensgrundlagen in einer sich wandelnden Welt). Organised by BERLINER AKADEMIE für weiterbildende Studien. Campus Virchow-Klinikum der Charité Berlin, Berlin, Germany: 08.04.2015	Jeanette Hofmann
Lecture/Talk: Big Data und Zweckbindung: Zweckbindung als Artefakt einer spezifischen Operationalisierung des Datenschutzes im Recht	Big Data: Auf dem Weg in die Datendiktatur? Drittes Gedächtnissymposium für Wilhelm Steinmüller. Organised by Europäische Akademie für Informationsfreiheit und Datenschutz. Europäische Akademie Berlin, Berlin, Germany: 27.05.2015	Jörg Pohle
Lecture/Talk: Datendilemmata	Symposium zu Datensicherheit und Persönlichkeitsschutz. Organised by Leopoldina Nationale Akademie der Wissenschaften. Reinhardtstraße-Höfe, Berlin, Germany: 08.06.2015	Jeanette Hofmann
Lecture/Talk: Chancen und Grenzen des Offenen Zugangs zu Forschungsdaten	VfS-Jahrestagung 2015 (Session: Ökonomische Entwicklung – Theorie und Politik). Organised by Verein für Sozialpolitik. University of Muenster, Muenster, Germany: 06.09.2015	Benedikt Fecher

## PROMOTING UP-AND-COMING RESEARCHERS

### 1. Selected contributions to conferences

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: Creating connectivity: Social Processes at The Internet's Core	ALPIS Symposium on Infrastructuring For The Common Good. Organised by University of Trento. Antica Vetreria, Carisolo, Italy: 13.02.2015	Uta Meier-Hahn
Lecture/Talk: Empirical Results on Academic Data Sharing	International Conference on Science 2.0. Leibniz Forschungsverbund Science 2.0, Hamburg, Germany: 26.03.2015	Benedikt Fecher
Lecture/Talk: New Business Models for Television: production and value-chains in the era of convergence	New Directions in Film & Television Production Studies (Session: Panel 5 (Waterside 2): Changing technologies and practices). Organised by Success in the film and television industries (SIFTI). Watershed Cinema, Bristol, United Kingdom: 14.04.2015	Anett Göritz, Lothar Mikos
Lecture/Talk: Orphan Video Games and the EU Directive on Orphan Works	Save Game – Legal Challenges in Game Preservation. Humboldt Universität zu Berlin, Berlin, Germany: 22.04.2015	Rike Maier
Lecture/Talk: Competency Profiles for Internet-enabled Startups in Marketing and Sales: An Explanatory Qualitative Empirical Analysis	The WEI Business and Economics Academic Conference. Organised by Harvard University. Harvard University, Cambridge, USA: 08.06.2015	Wrobel Martin
Lecture/Talk: Monetizing user-generated content: Evidence from the German audio-visual industry	EURAM 2015 conference (Session: Slot 3). Organised by Kozminski University, Galatasaray University, University of Economics in Katowice. Kozminski University (Akademia Leona Kozminkiego), Warsaw, Poland: 18.06.2015	Urs Kind
Lecture/Talk: How the cognition of the entrepreneurial agent shapes a startup's business model development	R&D Management Conference. Organised by Istituto di Management. Scuola Superiore Sant'Anna, Polo Piagge, Pisa, Italy: 25.06.2015	Dopfer Martina, Sauer Roman
Lecture/Talk: New Business Models for the Television Market – Challenges and Perspectives for TV Production Companies in the Era of Digitalization and Convergence	IAMCR 2015 (Session: Popular Culture Working Group). Organised by Université du Québec à Montréal. Université du Québec à Montréal, Montreal, Canada: 12.07.2015	Lothar Mikos, Anett Göritz
Lecture/Talk: Urheberrecht und Technik am Beispiel von Hostingplattformen	Versprechungen des Rechts: Dritter Kongress der deutschsprachigen Rechtssoziologie-Vereinigungen (Session: Urheberrecht – Technologie – künstlerische Produktion). Organised by Law and Society Institute Berlin, and others. Humboldt Universität zu Berlin, Berlin, Germany: 09.09.2015	Rike Maier
Lecture/Talk: Creating connectivity: trust, distrust and social microstructures at the core of the internet	2015 TPRC: 43rd Research Conference on Communications, Information and Internet Policy (Session: Innovation 1). Organised by TPRC. George Mason University, Arlington (VA), USA: 26.09.2015	Uta Meier-Hahn

### 2. Academic visibility and impact

PUBLICATION	RESEARCHER
Meier-Hahn, U. (2015). Creating connectivity: trust, distrust and social microstructures at the core of the internet. 2015 TPRC 43: Research Conference on Communication, Information And Internet Policy. Conference Proceedings.	Uta Meier-Hahn
Leisterer, H. (2015). Die neuen Pflichten zur Netz- und Informationssicherheit und die Verarbeitung personenbezogener Daten zur Gefahrenabwehr. Computer und Recht, 665 – 670.	Hannfried Leisterer
Fecher, B., Friesike, S., Hebing, M., Linek, S., & Sauerermann, A. (2015). A Reputation Economy: Results from an Empirical Survey on Academic Data Sharing. DIW Berlin Discussion Paper, 1454.	Benedikt Fecher

PUBLICATION	RESEARCHER
Grafenstein, M. v. (2015). Das Zweckbindungsprinzip zwischen Innovationsoffenheit und Rechtssicherheit – Zur mangelnden Differenzierung der Rechtsgüterbetroffenheit. <i>Datenschutz und Datensicherheit – DuD</i> , 39(12), pp 789 – 795.	Maximilian von Grafenstein
Al-Ani, A., & Stumpp, S. (2015). Motivationen und Durchsetzung von Interessen auf kommerziellen Plattformen. Ergebnisse einer Umfrage unter Kreativ- und IT-Crowdworkern. (Motivations and Enforcement of Interests on Commercial Platforms: A Survey among Creative- and IT-Crowdworkers.). <i>HIIG Discussion Paper Series</i> , 2015(05).	Stefan Stumpp
Meier-Hahn, U. (2015). Creating Connectivity: Trust, Distrust and Social Microstructures at the Core of the Internet. <i>HIIG Discussion Paper Series</i> , 2015(03).	Uta Meier-Hahn
Haase, A. (2015). Harmonizing substantive cybercrime law through European union directive 2013/40/EU – From European legislation to international model law? <i>IEEE Explore Digital Library – First International Conference on Anti-Cybercrime (ICACC)</i> , 2015, 1 – 6.	Adrian Haase
Fecher, B., & Puschmann, C. (2015). Über die Grenzen der Offenheit in der Wissenschaft – Anspruch und Wirklichkeit bei der Bereitstellung und Nachnutzung von Forschungsdaten. <i>Information – Wissenschaft &amp; Praxis</i> , 66(2-3), 146 – 150.	Benedikt Fecher
Maier, H. (2015). Games as Cultural Heritage – Copyright Challenges for Preserving (Orphan) Video Games in the EU. <i>JIPITEC</i> (2), 120 – 131.	Henrike Maier
Leisterer, H., & Schneider, F. (2015). Staatliches Informationshandeln im Bereich der IT-Sicherheit. <i>Kommunikation &amp; Recht</i> , 681 – 688.	Hannfried Leisterer
Grafenstein, M. v., Schneider, E., Richter, N. (2015). MAUERSCHAU: A Mobile Virtual Museum – Postmodern Storytelling through Digital Media. <i>Kultur und Informatik: Cross Media</i> .	Maximilian von Grafenstein
Fecher, B., Friesike, S., & Hebing, M. (2015). What Drives Academic Data Sharing? <i>PLOS ONE</i> , 10(2).	Benedikt Fecher
Fecher, B., & Wagner, G. (2015). Flipping journals to open: Rethinking publishing infrastructure. <i>The RatsWD Working Paper Series</i> .	Benedikt Fecher
Beha F., Göritz A., Schildhauer T. (2015). Business Model Innovation: the Role of Different Types of Visualizations. <i>The XXVI ISPIM Conference – Shaping the Frontiers of Innovation Management</i> .	Anett Göritz
Haase, A. (2015). Kongressbericht: Cyberkriminalität als internationale Herausforderung. <i>Zeitschrift für Internationale Strafrechtsdogmatik</i> , 2015(7-8), 422 – 425.	Adrian Haase

### 3. Ratio of students who complete their doctoral thesis

Graduations starting in 2016.

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

### 1. Involvement in NoC events

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: New Regulatory Trends in the Protection of Personal Data	Symposium: International Regulatory Trends on Personal Data Protection. Organised by Global Network of Internet and Society Research Centers (NoC), Santiago de Chile, Chile: 14.03.2015	Wolfgang Schulz
Discussion/Meeting	Conference: Vision and Ideas for 2016/17 Annual Conference: Internet & Society: emerging topics and research communities. Organised by Global Network of Internet and Society Research Centers (NoC), Hong Kong Country Club, Hong Kong, China: 27.11.2015	Wolfgang Schulz, Felix Krupar

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

FELLOW/DATE/PROJECT PARTNER	SHORT CV/HOME INSTITUTION
Rebecca Kahn 31.05.2015 – 29.02.2016 Christian Katzenbach	Rebecca Kahn a PhD candidate in the Department of Digital Humanities at King's College, London. Her research examines the impact and effect of digital transformation on cultural heritage institutions, their documentation and internal ontologies. She also examines how national cultural heritage institutions negotiate, project and reinforce their national identity on the Web. Her undergraduate studies were completed in her native South Africa, and prior to beginning her research, Rebecca worked for several years in the Open Access and Free Culture movement, and has a particular interest in scholarly open access in the Global South, open education and peer learning online and open web literacy. King's College London
Sebastian Schwerner 30.06.2015 – 30.12.2015 Rike Maier	Sebastian is PhD fellow at the Centre for Information and Innovation Law (CIIR) at University of Copenhagen. In his research project he analyses licensing arrangements and legislative developments related to streaming in the EU with focus on collective management. Besides, Sebastian is primarily interested in policy-related questions on copyright law and the Internet and intrigued by entrepreneurial approaches to law by means of automation, machine learning or AI. Sebastian has professional experience in working with technology startups and holds a M.Sc. degree from Copenhagen Business School and the University of Copenhagen (DK), as well as a law degree from Ludwig-Maximilians University (GER). University of Copenhagen
Jonas Kaiser 30.06.2015 – 30.12.2015 Robin P. G. Tech	Jonas Kaiser is a PhD candidate at Zeppelin University Friedrichshafen in the Department of Political Communication. His doctoral research focuses on the role and relevance of science and scientific information within different online publics and how these publics are interconnected, both thematically and structurally. At HIIG, he aims to take a closer look at the somewhat fragile border between internal and external science communication. Jonas majored in Journalism and Communication Studies at the University of Hamburg. His research interests lie in the fields of science, environmental and digital communication. Zeppelin University, Friedrichshafen
Farzaneh Badiei 31.07.2015 – 31.01.2016 Osvaldo Saldias	Farzaneh Badiei is a PhD candidate at the Institute of Law and Economics, Hamburg University, Germany. Farzaneh's research focuses on the institutional design of online private justice systems in commercial contexts. She is also interested in studying online intermediaries such as social networks and payment intermediaries and their justice systems, using a law and economics framework. She holds an LLB from Mazandaran University (Iran) and an LLM from Kingston University (United Kingdom). Farzaneh worked with the United Nations Internet Governance Forum for three years. She was also a visiting scholar at Syracuse University, US, working with the Internet Governance Project on various Internet governance issues. She has also published on online dispute resolution and e-commerce. Hamburg University, Law and Economics

## 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	WMEDIUM/DATE	RESEARCHER
Interview: E-Chile: Investigación & Desarrollo	CNN, Chile (TV) 17.01.2015	Oswaldo Saldías
Reference: Investor Peter Thiel. Nur wer anders denkt, ist wahrhaftig	Die Welt (Online) 22.01.2015	HIIG
Interview: Das nächste große Ding Wie und Wo entsteht Innovation im Digitalen Raum	Deutschland Radion Kultur (Breitband) (Radio) 24.01.2015	Jeanette Hofmann
Article: Top-Adresse für Berliner Gründer	Berliner Morgenpost (Online) 26.01.2015	HIIG
Quote: Gleiches Netz für alle Amerika will Überholspuren für zahlungskräftige Anbieter im Internet verbieten. Soll auch die Bundesregierung einschreiten?	Frankfurter Allgemeine Sonntagszeitung (Print) 15.02.2015	Jeanette Hofmann
Interview: Treffpunkt Wissenswerte: Smarte Bürger für die digitale Welt	rbb (Radio) 08.03.2015	Thomas Schildhauer
Quote: Video-Streaming im Internet: Netflix-Chef ärgert sich über Ländergrenzen	Spiegel Online (Online) 02.04.2015	Wolfgang Schulz
Quote: Schlechte Klone zerstören die Marke	ComputerBase (Online) 25.04.2015	Lies van Roessel, HIIG
Interview: Berlin Unplugged / Berlin Desconectado	Deutsche Welle (Online) 27.04.2015	Oswaldo Saldías
Reference: Kampf der Spiele-Klonkrieger	Frankfurter Allgemeine – Digital Twin, Das Netzweltblog (Online) 08.05.2015	Christian Katzenbach, Lies van Roessel
Reference: Türkei: Die Regierung zensiert sich das Netz zurecht	ZEIT online (Online) 05.06.2015	Internet Policy Review
Reference: So könnte Berlin das europäische Silicon Valley werden	Der Tagesspiegel (Online) 09.06.2015	HIIG
Article: Medienrecht: Was muss Google wirklich löschen?	Hamburger Abendblatt (Online) 25.06.2015	Wolfgang Schulz
Article: 'Data-Sharing' in der Wissenschaft: Die Daten der anderen	Neue Zürcher Zeitung (Online) 22.07.2015	Benedikt Fecher
Interview: Totale Transparenz funktioniert nicht	Die Welt (Online) 06.08.2015	Wolfgang Schulz
Article: Wie Globalisierung und Technisierung Unternehmen betreffen	Der Standard (Online) 30.08.2015	Ayad Al-Ani
Article: Berliner Ideenskizze: Urheberrecht ohne 'geistiges Eigentum'	Heise Online (Radio) 31.08.2015	Jeanette Hofmann
Reference: Das Urheberrecht ist nicht übertragbar	boersenblatt.net (Online) 02.09.2015	Jeanette Hofmann
Article: Wir brauchen eine Lösung für den Alltag	Berliner Zeitung (Print) 05.09.2015	Max von Grafenstein
Interview: Breitband: Regulierter Hass	Deutschlandradio Kultur (Radio) 19.09.2015	Kirsten Gollatz

TITLE	MEDIUM/DATE	RESEARCHER
Interview: Datengutachten stärkt Rechte der EU-Bürger	DRadio Kultur (Radio) 24.09.2015	Jeanette Hofmann
Interview: Foodporn – Essensfotos ins Netz stellen	Bayern 2 – orange – Lebensart (Radio) 25.09.2015	Sascha Friesike
Article: Wie viele Netze gibt es?	Kulturaustausch (Print) 01.10.2015	Jörg Pohle
Interview: Folgen des EuGH Urteils zum Safe-Harbor-Datenabkommen	MDR Figaro (Radio) 05.10.2015	Wolfgang Schulz
Interview: Aus der Garage zum Miliardär: Das Startup als moderner Mythos	Zündfunk (Bayern2) (Radio) 08.10.2015	Steffen Tröger
Interview: Triumph für den Nutzer? – EuGH erklärt Safe Harbor für ungültig	Breitband, Deutschlandradio Kultur (Radio) 09.10.2015	Jeanette Hofmann
Quote: Kinder, Kinder! – Allen Protesten zum Trotz: Die URL .kinder gehört nun dem Süßigkeiten-Hersteller Ferrero. Darf man ein Wort wie 'Kinder' markenrechtlich nutzen?	Süddeutsche Zeitung (Online) 12.10.2015	Jeanette Hofmann
Interview: 3D-Druck: Hype oder Revolution?	X:enius (arte) (TV) 15.10.2015	Hendrik Send
Article: Denkräume schaffen Kreativität	Capital Magazin (Online) 19.10.2015	Sascha Friesike
Quote: Internet Governance Forum: Ten Years After	Intellectual Property Watch (Online) 15.11.2015	Jeanette Hofmann
Interview: Karrieretrend Crowdworking: Wir versuche, die Schwächeren zu schützen	Handelsblatt (Print) 05.12.2015	Ayad Al-Ani, HIIC
Reference: Digitale Hauptstadt – Das sind Müllers 10 Punkte für ein digitales Berlin	Berliner Morgenpost (Print) 07.12.2015	Jeanette Hofmann
Interview: Zwischen Arbeitsglück und Ausbeutung: Gefühle als Wirtschaftsfaktor	Deutschlandfunk (Radio) 23.12.2015	Ayad Al-Ani

## 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.183 – R.186.

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

EVENT ACTIVITY	EVENT	RESEARCHER
International scope		
Lecture/Talk: Knowledge Transfer between Berlin and Santiago	Digital Summit 2015. Organised by Magical Startups. Hotel W, Santiago de Chile, Chile: 14.01.2015	Oswaldo Saldías
Lecture/Talk: The Sales and Marketing Clinic	Digital Summit 2015. Organised by Magical Startups. Hotel W, Santiago de Chile, Chile: 14.01.2015	Wrobel Martin
Lecture/Talk: Data Protection between Innovation and the Rule of Law	Digital Summit 2015. Organised by Magical Startups. Hotel W, Santiago de Chile, Chile: 14.01.2015	Maximilian von Grafenstein
Lecture/Talk: Innovation and Imitation in Game Development	Digital Summit 2015. Organised by Magical Startups. Hotel W, Santiago de Chile, Chile: 14.01.2015	Lies van Roessel
Participating expert	Workshop: Ranking Digital Rights. Organised by Ranking Digital Rights Project. Stiftung Neue Verantwortung, Berlin, Germany: 26.02.2015	Kirsten Collatz
Panel: 2015 APRU Business Off-Site The Internet in Asia looking ahead to 2015	Conference: 2015 APRU Business Off-Site The Internet in Asia looking ahead to 2015. Organised by Association of Pacific RIM Universities, Keio University's International Center for the Internet Society in cooperation with the National Bureau of Asian Research. Keio University's International Center for the Internet Society, Tokyo, Japan: 10.03.2015	Wolfgang Schulz
Lecture/Talk: Internet Governance: Constellations of trust and distrust	Expert Group Trust at Risk? Foresight on the Medium-Term Implications for European Research and Innovation Policies (TRUSTFORESIGHT) (Session: Workshop on Policy Recommendations). Organised by European Commission, Directorate General for Research and Innovation. Square Frère-Orban, Brussels, Belgium: 18.03.2015	Jeanette Hofmann
Participating expert	Conference: 13th United Nations Congress on Crime Prevention and Criminal Justice. Organised by United Nations Office on Drugs and Crime. Conference Center Doha, Doha, Qatar: 11.04.2015	Adrian Haase
Panel: Copies, Clones and Genre Building – Innovation and Imitation practices in the Games Industry	Conference: Quo Vadis 2015. Create. Game. Business. Organised by International Games Week Berlin. Café Moskau, Berlin, Germany: 23.04.2015	Lies van Roessel, Rike Maier, Christian Katzenbach
Lecture/Talk: From Pong to Flappy Bird – Copying and Genre Building in the Games Industry	re:publica 2015. Station, Berlin, Germany: 05.05.2015	Christian Katzenbach, Lies van Roessel
Keynote: Internet Governance Dilemmas	World Wide Web Conference 2015. Organised by Fortezza da Basso. Fortezza da Basso, Florenz, Italy: 20.05.2015	Jeanette Hofmann
Lecture/Talk: Business Model Innovation: the Role of Different Types of Visualizations	XXVI ISPIM Innovation Conference (Session: Business Models (SIG), Entrepreneurship, & Financing Innovation). Organised by ISPIM. Budapest Marriot Hotel, Budapest, Hungary: 14.06.2015	Frederike Beha, Anett Göritz, Thomas Schildhauer
Lecture/Talk: MAUERSCHAU: A Mobile Virtual Museum – Postmodern Storytelling through Digital Media	EVA Electronic Visualisation and the Arts (Session: Parallel session: Papers – Museum). Organised by The Chartered Institute for IT. The Davidson Building, London, United Kingdom: 09.07.2015	Maximilian von Grafenstein
Lecture/Talk: Sales 101: Things you should consider when doing sales!	Lange Nacht der Startups. Organised by IHK Berlin. IHK Berlin, Berlin, Germany: 05.09.2015	Martin Wrobel

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: Startups, Digitized Hardware, and the German Mittelstand	IFA 2015. Messe Berlin, Berlin, Germany: 06.09.2015	Robin P. G. Tech
Panel: Evidence of Conspiracy	Conference: Samizdata: Evidence of Conspiracy. Organised by Disruption Network Lab. Kunstraum Bethanien, Berlin, Germany: 11.09.2015	Theresa Züger
Lecture/Talk: How Trust and Distrust Among Networkers Shape Internet Connectivity	27th Euro-IX Forum. Organised by European Internet Exchange Association. Melia Hotel, Berlin, Berlin, Germany: 27.10.2015	Uta Meier-Hahn
Discussion/Meeting	Workshop: Transatlantic Digital Study Tour. Organised by German Marshall Fund. German Marshall Fund, Berlin, Germany: 01.11.2015	Ingolf Pernice
Participating expert	Workshop: Discussion with a delegation of U.S. digital experts from business, media, and civil society. Organised by German Marshall Fund. German Marshall Fund, Berlin, Deutschland: 10.11.2015	Ingolf Pernice
Lecture/Talk: Exploring the regulatory conditions of internet interconnection – Preliminary survey results	71th RIPE Meeting (Session: Connect-WG). Organised by RIPE NCC. Remote presentation, Bucharest, Romania: 16.11.2015	Uta Meier-Hahn
<b>National scope</b>		
Session lead/Workshop moderation: Lean Project Management in digitalen Startups	Conference: Deutschlands Zukunft gestalten durch Projekte. Organised by Bundesministerium für Wirtschaft und Energie. BMWi, Berlin, Germany: 22.01.2015	Thomas Schildhauer, Nancy Richter, Tobias Schneider
Lecture/Talk: (Wie) bekomme ich die richtige StartUp Kultur in mein Unternehmen? Mythen und die Realität. Tradition trifft Digital Hipness	21. Handelsblatt-Tagung Strategisches IT-Management. Organised by Handelsblatt. Hotel Sofitel Bayerpost, München, Germany: 26.01.2015	Thomas Schildhauer
Lecture/Talk: Die Vernetzung des Wertschöpfungsprozesses mit der Crowd	VDI Fachtagung Industrie 4.0. Organised by VDI. Maritim Hotel, Düsseldorf, Germany: 29.01.2015	Thomas Schildhauer, Ayad Al-Ani, Stefan Stump
Participating expert	Conference: Treffpunkt Wissenswerte: Smarte Bürger für die digitale Welt. Organised by Technologiestiftung Berlin, Info Radio. Rainmaking Loft, Berlin, Germany: 25.02.2015	Thomas Schildhauer
Lecture/Talk: Datenschutz zwischen Innovationsoffenheit und Rechtssicherheit	Google Launchpad. Organised by Google Launchpad. Google Launchpad, München, Germany: 06.03.2015	Maximilian von Grafenstein
Lecture/Talk: The Importance of Sales for Startups	Startup Institute. Organised by Startup Institute Berlin. Startup Institute Berlin, Berlin, Germany: 06.03.2015	Wrobel Martin
Panel: Was soll Medienregulierung in konvergenten Märkten leisten?	Conference: Moderne Regulierung schaffen, Medienzukunft gestalten. Organised by Direktorenkonferenz der Landesmedienanstalten. dbb Forum Berlin, Berlin, Germany: 19.03.2015	Wolfgang Schulz
Lecture/Talk: Aktualisierung des Rundfunkstaatsvertrags – Anpassung des Medienrechts an die aktuellen Herausforderung	Jahresempfang des Medienrates der Sächsischen Landesanstalt für privaten Rundfunk und neue Medien. Leipzig Marriott Hotel, Leipzig, Germany: 23.03.2015	Wolfgang Schulz
Panel: Vorstellung der Studie 'Das Bürger-Internet: Neutralität ist nicht genug' und Diskussion	Conference: Das Bürger-Internet: Neutralität ist nicht genug. Organised by Netopia – Forum for the Digital Society. Haus der Kulturen der Welt, Berlin, Germany: 26.03.2015	Kirsten Gollatz
Lecture/Talk: Film meets IT-Veranstaltung	Film meets IT 2015 (Session: Film meets IT-Veranstaltung). Organised by transfer media, media.connect brandenburg. Medieninnovationszentrum, Babelsberg, Germany: 26.03.2015	Urs Kind, Christoph Krachten, Christian Meinberger



EVENT ACTIVITY	EVENT	RESEARCHER
Participating expert: Ökonomische Aspekte der Digitalisierung	Hearing: Öffentliches Fachgespräch des Ausschusses Digitale Agenda des Deutschen Bundestages. Deutscher Bundestag, Berlin, Germany: 06.05.2015	Robin P. G. Tech
Lecture/Talk: MAUERSCHAU – Das Mobile Virtuelle Museum	MAI Tagung – Museums and the internet (Session: BLOCK II: Den Außenraum erschließen). Organised by LVR-Fachbereich Kultur, LVR- Archivberatungs- und Fortbildungszentrum. DASA Arbeitswelt Ausstellung / Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (BAuA), Dortmund, Germany: 11.05.2015	Maximilian von Grafenstein
Lecture/Talk: Datendilemmata	Symposium zu Datensicherheit und Persönlichkeitsschutz. Organised by Leopoldina Nationale Akademie der Wissenschaften. Reinhardtstraßen-Höfe, Berlin, Germany: 08.06.2015	Jeanette Hofmann
Lecture/Talk: Instrumente des Widerstands: Digitaler ziviler Ungehorsam	Institut für Widerstand im Postfordismus. Organised by Label Müller: Vierte Welt, Berlin, Germany: 12.06.2015	Theresa Züger
Lecture/Talk: Staat und Gesellschaft als Partner der neuen offenen Wirtschaft	Wachstumschance Digitalisierung – Das 5. Weimarer Wirtschaftsforum. Organised by Ministerium für Wirtschaft, Wissenschaft und Digitale Gesellschaft. congress centrum neue weimarhalle, Weimar, Germany: 15.06.2015	Ayad Al-Ani
Lecture/Talk: Start-ups und der Innovationsstandort Deutschland	Berliner Forum Politik – Wirtschaft. Organised by Münchener Gespräche. Tagesspiegel, Berlin, Deutschland: 25.06.2015	Thomas Schildhauer
Panel: Digitalisierung des Alltags	Conference: BMBF Zukunftskongress. Organised by VDI/VDE Innovation + Technik GmbH; Projektträger für das Bundesministerium für Bildung und Forschung. Wasserturm, Berlin, Germany: 30.08.2015	Thomas Schildhauer
Lecture/Talk: aVoD Werbefinanziertes video on demand	Linked Production Workshops 2015 (Session: Video on Demand – So stellen Sie ihren Content gewinnbringend auf geeignete Plattformen). Organised by transfer media. Humboldt Institut für Internet und Gesellschaft, Berlin, Germany: 01.07.2015	Urs Kind
Lecture/Talk: In der Zukunft angekommen – Datenschutz in einer digitalen Welt	KITS-Konferenz 2015 (Session: Abschlussdiskussion). Organised by DIN Deutsches Institut für Normung e. V. DIN Deutsches Institut für Normung e. V, Berlin, Germany: 02.07.2015	Maximilian von Grafenstein
Lecture/Talk: Internet Governance – Komplexe Strukturen, reflexive Prozesse und deren Legitimität	Telemedicus Sommerkonferenz: Zwei Schritte vorwärts: Die Zukunft des Internetrechts (Session: Rough Consensus and Running Code). Organised by Telemedicus in Kooperation mit Internet & Gesellschaft Collaboratory, Hertie Stiftung, Alexander von Humboldt Institut für Internet und Gesellschaft, Humboldt Law Clinic Internetrecht. Hertie School of Governance, Berlin, Germany: 30.08.2015	Kirsten Gollatz
Panel: Female Tech Panel – We can do IT!	Conference: Lange Nacht der Startups. Organised by DT Telekom, IHK. IHK Berlin, Berlin, Germany: 04.09.2015	Martina Dopfer
Lecture/Talk: Internet größter Spielplatz aller Zeiten? Über den Datenhunger der digitalen Gesellschaft	30. Berliner Sommer-Uni. Organised by Berliner Akademie für weiterbildende Studien e.V. UdK Berlin, Berlin, Germany: 04.09.2015	Jeanette Hofmann
Lecture/Talk: Internet-enabled Innovation – Kollektive Intelligenz als Motor für offene Innovationsprozesse	Digital Science Match (Session: Session 4 – Big Data). Organised by Tagesspiegel/ Die Zeit. Kosmos Berlin, Berlin, Germany: 06.10.2015	Thomas Schildhauer
Lecture/Talk: Gründe ein digitales Unternehmen	deGut – deutsche Gründer- und Unternehmertage. Organised by IBB. Hangar 7 – Flughafen Tempelhof, Berlin, Germany: 09.10.2015	Martina Dopfer

EVENT ACTIVITY	EVENT	RESEARCHER
Keynote: Chancen wagen durch die digitale Transformation	deGut – deutsche Gründer- und Unternehmertage (Session: Chancen wagen durch die digitale Transformation). Organised by IBB. Hangar 7 – Flughafen Tempelhof, Berlin, Germany; 09.10.2015	Martina Dopfer
Panel: Welche Chancen bietet Digitalisierung im Kontext des demographischen Wandels und der dadurch bedingten Herausforderungen für Gesellschaft und Wirtschaft?	Conference: FAZ Konferenz 'Das digitale Ich'. Organised by Frankfurter Allgemeine Forum/Bundesdruckerei. Atrium der F.A.Z. Hauptstadredaktion, Berlin, Germany; 14.10.2015	Thomas Schildhauer
Lecture/Talk: Daten: Dilemmata der digitalen Gesellschaft	7. Engineering- und IT-Tagung: Das digitale Unternehmen – wo bleibt der Mensch? Organised by IG Metall. BMW-Group, Munich, Germany; 19.11.2015	Jeanette Hofmann
Lecture/Talk: Digitalisierung	Meisterkreiskonferenz (Session: Digitalisierung). Organised by Meisterkreis. Hotel Adlon, Berlin, Germany; 24.11.2015	Thomas Schildhauer

## 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

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**1 500 000 €**

## 2. Acquisition of project funding

FUNDING 2015	BRIEF DESCRIPTION	FUNDER	DIRECTOR/RESEARCHER	TIME FRAME
135 000 €	Development of Internet Entrepreneurship Research	google/GFI	Thomas Schildhauer	01.12.2012 – 31.12.2015
60 000 €	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
170 000 €	Support on project: 'KORSE'	University of Freiburg (BMBF)	Ingolf Pernice, Rüdiger Schwarz	01.07.2013 – 30.06.2016
63 000 €	Support on project: 'Wachstums Kern D-Werft – Verbundprojekt 5: Zukunftsforschung und Wissenstransfer; Erforschung zukünftiger sozialer und wirtschaftlicher Entwicklungen im A/V-Wirtschaftszweig'	BMBF	Sascha Friesike, Thomas Schildhauer	01.03.2014 – 28.02.2017
33 000 €	Support on project: 'Wachstums Kern D-Werft – Verbundprojekt 4: Distributionstechnologien; Nutzerseitige Impulse zur Entwicklung von Geschäftsmodellen'	BMBF	Sascha Friesike, Thomas Schildhauer	01.03.2014 – 28.02.2017
65 000 €	Support on project: 'Wachstums Kern D-Werft – Verbundprojekt 3: Rechtsmanagement; Gesetzliche Voraussetzung für die Verwertung von Verwaisten Werken'	BMBF	Ingolf Pernice, Rüdiger Schwarz	01.03.2014 – 28.02.2017
2 000 €	Support on research: Multi Stakeholder Internet Governance	ICANN	Jeanette Hofmann, Wolfgang Schulz	16.03.2014 – 27.02.2015
45 000 €	Support on project: MOOCs & Knowledge base	google	Anna Hansch, Christopher Newman, Thomas Schildhauer	01.03.2015 – 30.04.2015
5 000 €	Support on the third Best Practice Sharing Event of the iLINC Network on 18 and 19 May 2015 in Berlin	Queen Mary University London	Maximilian von Grafenstein, Wolfgang Schulz	18.05.2015 – 19.05.2015
21 000 €	Support on project: User Innovation in the Energy Market	RWE Stiftung	Matti Große, Thomas Schildhauer, Hendrik Send	01.06.2015 – 31.05.2018
15 000 €	Support on the research topic: 'Big data: big power shifts?'	Vodafone Institute for Society and Communications	Frédéric Dubois, Wolfgang Schulz	01.11.2015 – 30.04.2016

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**614 000 €**

### 3. Acquisition of project funding

BRIEF DESCRIPTION	FUNDER	DIRECTOR/RESEARCHER	TIME FRAME
Cooperation: PhD candidate 'Business Models'; integrated in the HIIG doctoral programme	HFF	Anett Göritz	01.01.2013 – 31.12.2015
Fellowship Benedikt Fecher	DARIAH-DE	Benedikt Fecher	01.09.2015 – 29.02.2016
Funding Stipend Program for Doctoral Students for a 7 months research period at the GovernanceLab at the New York University, NY	DAAD German Academic Exchange Service	Kirsten Gollatz	01.11.2015 – 31.05.2016
Travel grant for participation at TPRC43 Conference, September 24 – 28, 2015, Arlington (VA), USA	DAAD German Academic Exchange Service	Uta Meier-Hahn	24.09.2015 – 28.09.2015
Cooperation: Project 'MOOCs & Knowledge Base'	IHK zu Berlin	Christopher Newman, Lisa Hillers, Anna Hansch	01.05.2014 – 31.03.2015
Cooperation: Project 'Internet Policy Review'	CREATe/University Glasgow	Frédéric Dubois, Uta Meier-Hahn	01.01.2014 – 31.12.2015
Cooperation: PhD candidate 'Participation', integrated in the HIIG doctoral programme	Hochschule Anhalt	Stefan Stumpp	01.09.2012 – 31.12.2015
Cooperation: PhD candidate 'Open Science', integrated in the HIIG doctoral programme	DIW	Benedikt Fecher	01.09.2012 – 31.12.2015
Travel and accommodation grant for participation at the Digital Summit 2015, Santiago de Chile	Corfo, Chilean Agency for Economic Development	Lies van Roessel, Maximilian von Grafenstein, Martin Wrobel, Osvaldo Saldías, Rüdiger Schwarz	05.01.2015 – 16.01.2015



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

Anhalt University of Applied Sciences, Berlin University of the Arts, Chamber of Commerce and Industry of Berlin, Chilean Agency for Economic Development (Corfo), CREATE, DAAD German Academic Exchange Service, DARIAH-DE, DRadio Wissen, dwerft, Factory, Federal Ministry of Education and Research Germany, Film University Babelsberg Konrad Wolf, German Institute for Economic Research (DIW Berlin), Google, Hans-Bredow-Institute for Media Research, Humboldt-Universität zu Berlin, ICANN, iLINC, Institut des sciences de la communication du CNRS/Paris-Sorbonne/UPMC, Kooperative Berlin Kulturproduktion, KPMG, Leibniz Association, Queen Mary University London, RWE Foundation for Energy & Society, Social Science Research Center Berlin, Technische Universität Berlin, Telekom Innovation Laboratories (T-Labs), University of Freiburg, University of Glasgow, University of Potsdam, University of St.Gallen, Vodafone Institute for Society and Communications





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