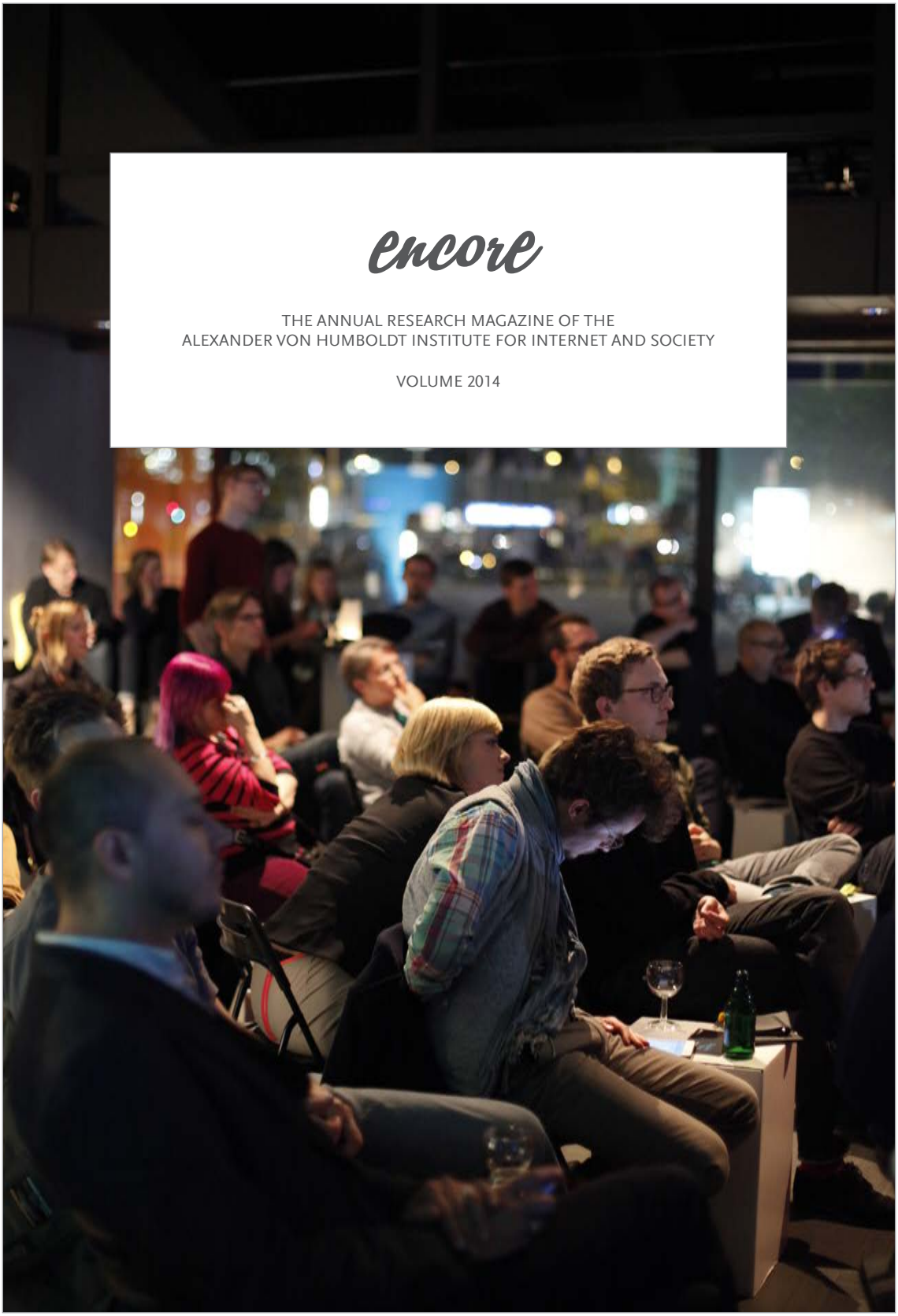

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THE ANNUAL RESEARCH MAGAZINE OF THE
ALEXANDER VON HUMBOLDT INSTITUTE FOR INTERNET AND SOCIETY

VOLUME 2014

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VOLUME 2014

EDITORIAL

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

The Internet keeps evolving, and so does the Alexander von Humboldt Institute for Internet and Society (HIIG). The first tweet ever sent from our initial domicile in the Humboldt-Universität at Bebelplatz said: "office space launched, coffee, music and people still lacking". That was in October 2011. Less than a year later, we had already expanded so much that our spacious office became too small to accommodate all of us. The researchers had to move out and leave the management behind. Our new office at Hausvogteiplatz started with one single floor. Roughly three years later, we have almost taken over the whole building. The latest arrival at 'HVP' is our management team. While we are a bit sentimental about gradually abandoning the much beloved Bebelplatz office, we are very happy to have all HIIG people re-united under one roof.

2014 was a very busy year for us with a great many activities and results. In our second edition of encore, we are presenting again a cross section of our work. Unlike last year, however, we are highlighting three themes around Internet and society that proved to be particularly important for us.

The ongoing revelations about pervasive surveillance on the Internet directly intersect with the Global Privacy Governance project of the research area Global Constitutionalism. The group has initiated a workshop series to address the question of legal remedies against interception. The series culminated in a well-attended conference with eminent speakers who offered highly relevant insights. Another workshop, which we jointly organised with the Federal Foreign Office, looked at the possibility of an international public law for the Internet.

Global Internet governance was another important topic for the HIIG in 2014. In spring, we contributed to the NETmundial Conference held in São Paulo, which is now regarded as a first step towards a common framework of principles for the Internet. Our annual conference, co-organised by the Humboldt-Universität zu Berlin, also dealt with the intricate question of how to govern the global Internet. The conference featured the perspectives of actors, technology and content.

Initiated in 2013, the HIIG's Startup Clinics have become an effective, mutually beneficial method to bring together researchers and practitioners. Four doctoral students, specialising in human resources and management, law, finance, as well as business model innovation, offer support to founders to discuss their problems while simultaneously gathering data for their PhDs.

While we are completing this year's edition of encore, the year 2015 has already picked up speed and we are looking ahead towards another productive year of collaboration within and across the premises of the HIIG. Stay tuned!

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ABOUT THE ALEXANDER VON HUMBOLDT INSTITUTE FOR INTERNET AND SOCIETY

Founded in March 2012, the Alexander von Humboldt Institute for Internet and Society is meant to enable scientific research in the field of Internet and society and to observe the development of the Internet in its interplay with societal transformation processes. The Institute for Internet and Society serves as a platform for academics and strives to encourage the co-operative development of projects, applications, and research networks. Through a variety of event formats, the institute opens up the academic work and research results for questions arising from political players, civil society, and business.

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 co-operation partner – secure the multilayer perspectives of the institute by focusing on technological and legal perspectives as well as on sociological, economical, and artistic aspects. The Alexander von Humboldt Institute for Internet and Society aims to be a leading independent research institute with a global scope. With initial funding from Google (which has been renewed in 2014) the course of the incorporation of the institute started in 2011. Furthermore, the institute is supported and funded by e.g. KPMG, Federal Ministry of Education and Research.

THE INSTITUTE'S LINEUP

Andreas Banholzer
Internet-enabled Innovation

Kerstin Bass
Internet-enabled Innovation

Susanne Becker
Management

Andrea Calderaro
Internet Policy und Governance

Lisa Chichowitz
Internet-enabled Innovation

Kevin Dankert
Internet and Media Regulation

Martina Dopfer
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Frédéric Dubois
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Benedikt Fecher
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Kristin Franz
Management

Sascha Friesike
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Kai Gärtner
Management

Kirsten Gollatz
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Maximilian von Grafenstein
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Adrian Haase
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Internet-enabled Innovation

Lisa Hillers
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Internet and Media Regulation

Theresa Züger
Global Constitutionalism and the Internet

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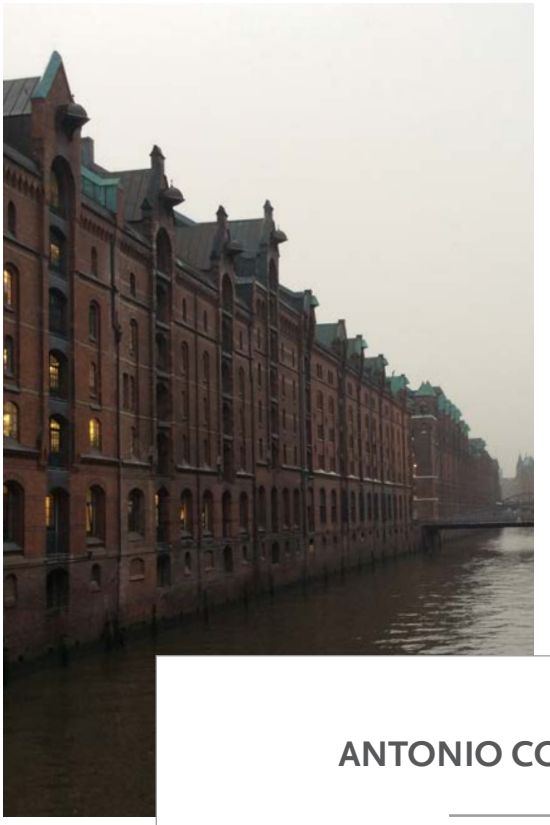
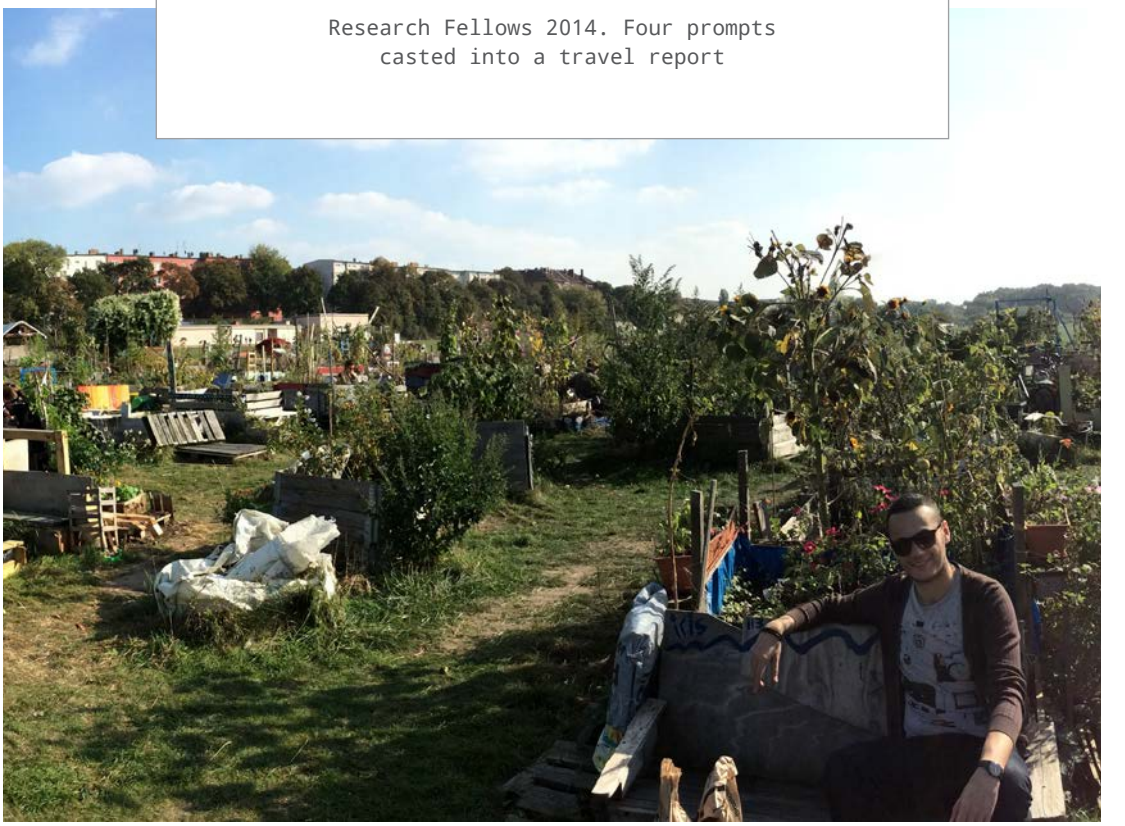
FAREWELL 2014

Dennys Antonialli · Ina Bassarak · Engin Bozdag · Julia Ebert · Birgit Gebhardt · Björn Grzywacz · Stefan Groß-Selbeck · Travis Hall · Sarah Herweg · Constantin Hoferer · Maximilian Kornwachs · Stefan Keitel · Paula Kift · Jörg Müller · Mayte Peters · Kai von Lewinski · Fiona Weber · Marie-Luise Weckerling · Lena Ziesenieß · Erik Zocher



ANTONIO COMPAGNONE

Research Fellows 2014. Four prompts
casted into a travel report



As I come to the end of my research period as one of the four 2014 HIIG fellows, I have been asked to contribute to this issue of *encore* with a brief report of my stay in Berlin. To keep up with modern times, I could entrust my narration to a collage of Instagram pictures or inspired by one of my favourite #**Netflix** movies, I could provide a link to a self-made video clip about my adventure. I have been assigned, instead, a more traditional and, at the same time, singular task: writing a piece of text with the additional 'challenge' of incorporating four specific words into that text. In the beginning, I thought (or maybe I hoped) I was being challenged with an #**IQ test** of sorts and that I would discover a hidden relationship between these four words which would help me place them in the text more easily. In the end, I concluded no such relationship exists. Now, either I failed the test or the words have in fact been randomly chosen. What really matters is that I have already managed to use two of them in this introduction!

Let us begin with my application process. As one can certainly imagine – in spite of the positive and wishful thinking that always makes you give it a try – knowing that people from all over the globe would be applying for a fellowship at the HIIG made the application process somewhat daunting. But then, after being contacted for a Skype interview, I started to think that the possibility to become a HIIG fellow was actually not so remote. This was finally confirmed in the early afternoon of April 17, 2014, when I received a mail from Mr. Rinas saying that I had been preselected for the fellowship and that, "due to the upcoming #**Easter** (I would love to thank Simon for using this word!) holidays", I would be informed of the final approval on the part of the directors later that month. I know, I still had to wait for the final green light, but I have to confess that that was the day my search for a room in Berlin officially began.

I am not the first fellow who writes an account of their experience at the HIIG. Last year, Julian Ausserhofer embarked on the same enterprise (yes, he had to cope with four supposedly random words, too!). "An unforgettable summer" is how he defined his three-month experience (from July to September) as a 2013 summer

Pictures on the left: Impressions from the trip to Hamburg; Antonio as part of the HIIG Team-Staffel; urban gardening on the former airfield of the Berlin Tempelhof Airport.

fellow at the institute and in Berlin. I started my fellowship in June and I have been at the institute for seven months now. I think I have definitively spent enough time at the HIIG and in Berlin to be able to say that I totally see what Julian meant.

At the HIIG I felt immediately welcomed. Even before becoming involved in the research activities of the institute, I had the chance to make the acquaintance of most of the institute researchers by participating as a member of one of the HIIG running teams in the Berliner Wasserbetriebe *Team-Staffel* in June. At the HIIG not only have I been given the opportunity to talk about my own research and receive some insightful feedback, I have also participated in a series of events, such as the weekly HIIG club meetings and the early stage researchers colloquium, taken part in a trip to Hamburg to visit the Hans Bredow Institute, organized a HIIG cinema club, with fellow Florian Süssenguth, on how Scientists and the horror genre 'keep up with the Net' and started to work on a paper on the impact of data and metadata tracking both on digital platform design and on research methods in the social sciences with my HIIG research partner Cornelius Puschmann. I cannot help but feel very grateful for all of this.

As far as the city is concerned, I had visited Berlin as a tourist a few times before my fellowship and I fell in love with it right away. The first time I saw Berlin, I remember I was particularly impressed with its huge and wide streets and squares, where I felt like I could deeply breathe like in no other place I had ever been before. During the course of my period of research at the HIIG, this feeling has extended for seven months. Additionally, in Berlin, for the first time in my life, I flew a kite. I did that in the Tempelhof area, during the last summer-like day of the year. In Berlin, also for the first time in my life, I sledded like a crazy child after the post Christmas snow. In Berlin, again for the first time in my life, I saw Twiggy, the #**water-skiing** squirrel on YouTube, after googling the word water-skiing to find some inspiration on how to use it in this text. ◆

THIS IS AN ARTICLE BY **ANTONIO COMPAGNONE**

Antonio Compagnone visited the Humboldt Institute for Internet and Society as a Research Fellow in autumn 2014, where he joined the Internet-enabled Innovation team. Antonio is a PhD candidate in English for Specialized Purposes at the University of Naples Federico II, Department of Political Science. His research is centred on the popularization of scientific knowledge, with a focus on the reconceptualisation of academic discourse and the construction of academic identity via the web-mediated genre of TED talks.

RESEARCH FELLOWS

For outstanding scholars from all over the world, the Humboldt Institute for Internet and Society offers the opportunity to visit our institute for a subject-specific exchange. Candidates from all fields of Internet research are invited to apply with independent transdisciplinary projects that connect to our research agenda. Our fellowship programme provides innovative thinkers a unique opportunity to exchange experiences and to start new initiatives in an inviting intellectual environment. The selected fellows are invited to collaborate in a growing international team and to participate in the research activities at the institute. We especially encourage early stage researchers to actively shape their stay according to their research interests.

KAJA SCHELIGA

Looking at open science through the prism of a social dilemma

The essence of open science is to make the whole research process transparent and accessible. The idea of open science can be traced back to the days of the emergence of the scientific journal system when scientists started to publish their insights in the form of scientific papers instead of anagrams. In its current form, open science has gained a new dimension thanks to the Internet, which provides scientists with the technological means to share their insights on a potentially global scale.

Open science is fostered on a top-down level by various initiatives of the European Commission and on a bottom-up level by passionate individuals. Nevertheless, on a large scale, the concept of open science is rarely reflected in scholarly reality. In order to find out what hinders scientists to put open science into practice I have conducted a series of interviews with researchers from various backgrounds.

The obstacles mentioned in the open science interviews are both of an individual and systemic nature. On an individual level, researchers are confronted with the fear of free-riding, the need to invest extra time and effort, troubles with digital tools for research purposes, the lack of impetus to publish negative results, difficulties in guaranteeing data privacy and the reluctance to share code. On a systemic level, researchers face cultural and institutional constraints, ineffective policy guidelines, evaluation criteria that impede openness, a lack of legal clarity as well as a lack of standards for sharing research materials and last but not least, they need to consider the financial aspects of openness.

In light of these obstacles, open science can be looked at through the prism of a social dilemma: what is in the collective best interest is not necessarily in the best interest of the individual scientist. The interesting question here is how the dilemma of putting open science into practice can be overcome. Motivational and strategic solutions highlight the indirect benefits of open science such as higher visibility of research activity as a factor contributing to driving a scientist's career forward. A structural solution involves integrating open science efforts into the scientific evaluation system.

And while the structural changes take their time, each individual scientist can contribute to the open science movement by sharing whatever part of their research is shareable. What is important to remember at this point, however, is that putting open science into practice takes on different forms and the best way to share intelligently and consciously needs to be determined each time anew. ◆

OPEN SCIENCE INTERVIEWS

These interviews with researchers on open science and digital scholarship complement the paper *Putting open science into practice: a social dilemma?*.

Below are some teaser quotations from the interviews. The full transcripts can be found on openingscience.org.

"I think it is interesting to go through the medium of paper to think about the digital."

— **David Berry**

"It is a completely standard social phenomenons, and if your work is visible and you get on with people, you get more people to work with and you get, you know, the Paul Erdos factor."

— **Jon Crowcroft**

"To me open science is sharing much more than just data and the code, it is also sharing thinking."

— **Carolina Ödman-Govender**

"So we live with this monster that has two heads, one is the traditional way and the other way is how people would like to do the things."

— **Cristobal Cobo**

MORE ON OPEN SCIENCE:

Scheliga, K., & Friesike S. (2014). Putting open science into practice: a social dilemma? First Monday, 19 (9). DOI: dx.doi.org/10.5210/fm.v19i9.5381

Scheliga, K. (2014). Open Science Interviews. Available at http://www.openingscience.org/open-science-interviews

THIS IS AN ARTICLE BY **KAJA SCHELIGA**

The Open Science Interviews were conducted by Kaja Scheliga and Benedikt Fecher throughout the year 2014. The article that summarises the interviews was published on 6 January 2015 on the HIIG-Blog. Kaja Scheliga is a doctoral researcher at the Humboldt Institute for Internet and Society and is doing research on open science.

OPEN SCIENCE

The Internet undoubtedly changes the way knowledge is created and disseminated. The research project Open Science therefore identifies and structures the numerous approaches in order to make them accessible for other interested researchers. Furthermore it addresses particular issues, for instance: How does the production of knowledge change through open communication and interactive tools? What determines openness in research? How does openness differ among the disciplines and research systems? What online tools are there and how are they used within the field of science? What role does the aspect of intellectual property play in scientific publishing?

BENEDIKT FECHER

Path dependence of academic publishing

In 1867 Christopher Latham Sholes developed a simple typewriter. One of its many original faults was that the type bars would constantly block each other. After the urging of his investor James Densmore, Sholes spent six years further developing his typewriter. He finally arrived at the QWERTY sequence. The QWERTY solution ensured that the type bars did not block each other because the most commonly used letters were positioned as far apart as possible on the keyboard. Soon after typewriters began to be manufactured industrially, the QWERTY sequence became the standard norm. In 1932, August Dvorak developed the DSK-keyboard (Dvorak Simplified Keyboard) with a more intuitive keypad that enabled users to type up to 40 % faster. By this stage, however, QWERTY could not be stopped. Even after mechanical typing became a thing of the past, and the issue of blocked type bars with it, QWERTY was the universally accepted norm and its design was directly transferred to the computer keyboard. The keyboard in front of you is a historical accident.

There is a concept in organisational theory that explains why we still type sub optimally: Path dependence. Path dependence means that a logical decision in the past leads to a suboptimal system in the present. When Sholes worked on his typewriter, the QWERTY sequence was the best solution for preventing mechanical type bars from blocking each other. In contemporary times of digitisation, such influenced considerations from a mechanical past are of course no longer relevant. We would certainly be better off with Dvorak's simplified keyboard.

In path dependence theory, lock-in phase is the common term to express when a suboptimal system established itself. Derived products use the old standard, investments are made and humans educated. A QWERTY world is born. QWERTY worlds survive because many are invested in it and changes would involve great effort. Just imagine what it would mean to change to a DSK keyboard today. Inefficient systems are scalable too. QWERTY worlds are everywhere. They explain why we type sub optimally. They explain why streets in historical city centres are pedestrian rather than car-friendly and why academic publishing is far from being the most efficient way to disseminate content.

THE JOURNAL'S ROAD TO SUCCESS

At the beginning of the 17th century, the most common way of scholarly exchange was the letter or the book, being either very exclusive (letter) or time-consuming (book). That changed when around 1660 a group of renowned scientists (among them Isaac Newton) held conspirative meetings to revolutionise scholarly exchange. These meetings later turned into, what we know today as, the Royal Society of London. In 1665 they founded the Philosophical Transactions of the Royal Society, the first academic journal. By the end of the 17th century there were already 30

periodic scientific journals. Hand in hand with the enlightenment and the establishment of scientific disciplines, the journal became the dominant way to convey scholarly content.

At the beginning of the 18th century and long after, academic journals were the most efficient way to spread knowledge, peer review was the most efficient form of quality assurance, and libraries were the most public way to store articles. In the context of its era, the journal was the most efficient way to curate, spread and discuss discoveries. A whole industry developed around the journal value chain and today, publishing in a renowned journal is the accepted currency for scientific success.

For centuries, the journey from writing an article to publishing it, has been the same. A researcher submits an article to a journal, if the article is not immediately desk-rejected, (anonymous) peers determine whether an article is worth publishing or not. If the researcher is lucky, he or she will receive an E-mail (innovation!) with the reviews. With a little luck, the E-mail contains a request to incorporate the reviews for a publication. Between submitting and publishing an article, two years can easily pass by. Once the journal is published, libraries buy the licences and make them available to their students, teachers and researchers.

PATH-DEPENDENT REVIEW

This century-old system of academic publishing works but is far from being the most effective and efficient way to disseminate new insights today. In fact, many of the historic strengths of print-based publishing go into reverse.

The previously described review procedure is a good example. The system of quality control by a few experts has proven its worth over decades. The higher a journal is ranked, the more prestigious the list of its editors is. Still, it is at least worth considering that just two people determine the relevance or irrelevance of an article for an entire community. An article can easily spend two years in a review limbo. It is unacceptable that in 2014 it can take so long for research results to become available for discussion by a specialist audience.

Platforms like PLOS ONE show that it can be different. At PLOS ONE, articles are put online after a basic preliminary review. The audience can be assured that the articles meet at least the criteria of good scientific practice. Readers can then discuss the articles online and evaluate their contribution to the field. Every article is of course open access. There is no periodical regime and a quick review combined with comparably low publication fees provides the expert community with a timely opportunity to decide for itself the relevance of contributions. PLOS ONE removed the dust from the print age. Why are others so reluctant to follow that example?

continue reading on page 24 ⏭

THIS IS AN ARTICLE BY **BENEDIKT FECHER**

This article was published on 11 August 2014 on the HIIG-Blog. Benedikt Fecher is a doctoral researcher in the Open Science project at the Humboldt Institute for Internet and Society, focusing on data sharing in academia.

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, stakeholders, companies and the general public. The behaviour of individuals, corporations and institutions in terms of how they interact online is currently changing. Internet-enabled Innovation is a topic that goes far beyond corporate technology management. To explore these changes, the multi-layered approaches of Internet-based innovations have to be determined and outlined. Particular aspects that need a deeper analysis are pinpointed, such as open science, participation (online and through the outernet), Internet-enabled business models and the index of Internet-enabled innovation.

PATH-DEPENDENT FORMAT

Comparing academic publishing with the changes in the newspaper industry, Davis (2014) analyses in his editorial essay, in the latest Administrative Science Quarterly, that modern communication technologies should enable new ways of sharing and advancing knowledge. Newspapers have been radically transformed by the Internet revolution, adapting their format to one of continuous updating, colour, video, and opportunities for feedback and debate by readers. Yet academic journals still bear the imprints of their origins, and most appear indistinguishable from their counterparts of 50 years ago.

It is however ironic that Davis' essay which could inspire an interesting debate appeared on a platform that has no commentary function. It illustrates perhaps, that academic publishing continues to force itself into a corset that could become too tight in just few years' time. Articles today rarely allow interactivity, PDFs are used instead of more usable formats and underlying data is seldom retrievable. The conventional format chosen to present content academia is one for reading, not one for engaging with.

PATH-DEPENDENT ACCESS

To publish an article under an Open Access licence can easily cost 2,500 Euros or more in a renowned journal. Otherwise only licensed users can read the article. The University of California, Berkeley published a list that gives an indication about the costs of the article ransom. Libraries pay millions for licences. Even Harvard University has said that it can barely cover the enormous expenses and advises its researchers to stop hiding articles behind a paywall. Nevertheless, a publication in a renowned journal is a distinction for many researchers. It can push one's career and is an ace up the sleeve when applying for research funding. It is recognised currency for scientific success. When viewed in this light, it is illogical to choose any way to publish other than the long, stony one.

Just as in the story of the QWERTY keyboard, a system of academic publishing prevails that while functional, is suboptimal. When viewed in the eye of socio-technological advancements, the established system of academic publishing, from submission, review, and publication can only be described as out dated. It takes too much time, it is too expensive and leads to an artificial scarcity of content. It no longer reflects the zeitgeist.

A GLANCE ACROSS THE BORDER: THE PRINT CRISIS

Looking at other industries, one can discover that organisational change always follows the same pattern. Innovations change context factors and these lead to new organisational

logics. New types of organisations appear and establish change. For established organisations, change is difficult but necessary.

A good exemplary case is again the print journalism industry. Only publishers that adapt to new customer needs, new user behaviours and financing models in times of significant medial transformations (key word: narrowcasting), are successful. In addition, novel SEO optimised and often user-generated news services, appear and question the established value creation logic and business models (e.g. Huffington Post). Many publishing houses have not survived the print crisis. Adapting to new context factors is difficult. Organisational change is tedious and costly. Karim and Mitchell (2000) for example show that many firms buy fresh startups to provoke organisational change. Axel Springer for instance is following that strategy. One does not have to be a great analyst to realise that only economically successful publishing houses can pursue such a strategy.

CHANGE IN ACADEMIC PUBLISHING?

When it comes to academic publishing a similar change can be perceived. This becomes evident from innovative new publication platforms such as PLOS ONE and (partly) SSRN, that choose new dissemination and assessment logics. This also becomes apparent from legal disputes like that between Academia.edu and Elsevier, investment decisions like Bill Gate's stake in Researchgate or acquisitions such as the one by Elsevier of Mendeley. The most visible sign of a transformation in academic publishing is however the prevailing debate about Open Access. In the context of path dependence and open access the discussion about the impact of open access publishing and alternative metrics for assessing quality is particularly interesting. The measure for scholarly performance and thereby the whole publishing industry is at least under debate.

POSSIBLE DEVELOPMENTS

The essential question is, how academic publishing can free itself from its path dependence and to what degree novel forms of curating and publishing content can prevail. In his insightful analysis of the role of journals for the scientific creation of value, Davis (2014) identifies the peer review as the core technology of scientific journals. Thereby the unique selling proposition of established publishers is the curation of content and the identification of excellence. The question this raises is can alternative review mechanisms lead to a better and more efficient assessment of scientific output? For example: To what degree can a community-based review, as for example at PLOS ONE, replace the traditional peer review?

Apart from the review process, the presentation and the accessibility of content originates from the age of print books. If flat and decentralised organizational structures for distributing and assessing scientific content lead to better long-term value than traditional mechanisms, it remains exciting to see how established players adapt to that change and what kind of new systems of publishing appear and prevail.

In case we are still publishing suboptimally in ten years, path dependence at least offers us a good explanation. However at least one sign allows us to be optimistic: The Royal Society, the organisation that caused the whole mess more than 300 years ago, designed in 2012 a blueprint for Science as an Open Enterprise, an insightful model for science in a digital age. They possibly used a QWERTY keyboard for it. Some things never change. ◆

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HIGHLIGHT

SURVEILLANCE

The Internet's very technical properties allow for self-tracking and for being tracked by corporations and governments. In the aftermath of the Snowden revelations it became clear that the great network is already operating on a science-fiction level. The awareness of being monitored, tracked, quantified and analysed, however, does not seem to deer people from sharing and participating in social media using the advancements of the Internet, which links millions of minds and extends the range of opportunities for everyone.

And yet, the global dynamics in surveillance urged for undertaking a closer examination of the legal bases and institutional control mechanisms of surveillance. Resonating the current debates, the HIIG conducted in 2014 three workshops and a conference with leading experts and insiders aiming to develop remedies against large scale and excessive surveillance and bulk collection of data. The outcome of the discussions was that better laws, more transparency and more symmetrical monitoring to watch the watchmen should be implemented to not 'over-egg the pudding' in surveillance. More than ever, the digital society needs greater fairness as the power in technology shifts and commercial interests in data grow. The former president of the German Federal Constitutional Court, Hans-Jürgen Papier, even pondered the idea that a citizen could bring an action against the government to point out the government's obligation to protect fundamental rights.

The real privacy problem cannot be solved merely with better laws, stronger enforcement and symmetrical institutional control mechanisms. Instead we need to rethink the human condition. Big data calls for big judgement. In a digital society, it becomes even more important to take into account the perplexities and enigmas of humanity, considering more critically human motivations within the digital context.

__ INGOLF PERNICE

SEBASTIAN LEUSCHNER

The Europeanisation of intelligence services as a fundamental rights issue

In an article recently published in the Frankfurter Allgemeine Zeitung concerning surveillance activities of the British secret service GCHQ, Sir Menzies Campbell, a member of the House of Commons, defended the British Government's obstructive attitude to the initiative of chancellor Merkel, who favours a European no-spy-agreement. According to Campbell, Great Britain is exposed to more severe security threats than other EU member states, which therefore justifies European-wide surveillance measures to protect British citizens. If Britain's European partners were unwilling to ensure sufficient intelligence endeavours, Britain would be required to protect its citizens' interests itself, he said.

In effect, Mr. Campbell is expressing a lack of trust in the efficacy and efficiency of foreign intelligence services when it comes to ensuring the security and safety of British citizens. In the 1940s and 50s, Europe found itself in a similar situation, though the historical context was quite different. Many nations feared repeated aggression of Germany as a 'superpower' in the centre of Europe. The solution to this perceived threat was found in the European unification of the national industries for coal and steel, which were essential for the production of armament. By transferring sovereign rights to a supranational institution, individual member states would no longer be able to secretly produce armaments and trust could be restored.

Indeed, at the time there was a fear of secret operations, whereas today the inactivity of European neighbours is feared. The common element in both cases is a lack of trust in the common. In the age of the War on Terror the object of fear has changed. The menace is no longer seen as coming from the European neighbour states themselves, but rather from potentially harmful individuals within those states. A possible solution might consist of an agreement on closer cooperation – instead of a prohibition on secret service activities within the EU, which is doomed to fail from the beginning. Thus, in the long run confidence in the trust and reliability of European partners might be strengthened.

We know there already exists an unregulated cooperation of security services within Europe and beyond. Nevertheless the overall amount and reach of the activities of foreign secret services remain non transparent even for the secret services themselves. If the British secret service knew of the full extent of German secret service activity, it might lead to a growth in confidence on their part and thus to a reduction in British activities on German soil. Common transnational programs might prove to be more effective. Although Art. 4 II 3 Treaty on the European Union leaves issues of national security to the member states' responsibility, it probably does not hinder such a cooperation, as this clause does not exclude voluntary cooperation.

From a fundamental rights perspective, a reduction in trans-frontier activities is desirable in two respects. First, because national and international human rights protection systems are due to their current conception only partly able to confine extraterritorial acts of public authorities, so that they might not even fully cover such

intelligence activities. For instance, both the European Convention on Human Rights and the UN Convention on Civil and Political Rights contain clauses on territoriality and jurisdiction, stipulating that the signatory states are only bound by the fundamental and human rights guaranteed by these treaties on their own territory or in cases where they have jurisdiction. Similar problems arise regarding the application of the national system guaranteeing fundamental rights. Therefore, at present the applicability of the national and international systems protecting fundamental rights on measures of mass surveillance of foreigners is the object of intensive debate. Secondly, even in case fundamental rights regimes are applicable, transparency ensures more control by others. It might reduce the necessity for solo action by single national secret services in foreign European countries and thus prevents double or unnecessary infringements.

Therefore, by reducing the solo trans-European activities of European secret services and increasing cooperation, citizens would no longer be exposed to the arbitrary powers of other EU countries, since a common responsibility for infringements would exist and be justiciable according to the national systems of fundamental rights and the European Convention on Human Rights.

Beyond any doubt, the issue of the Europeanisation of the secret services – to whatever extent – would amount to a giant political task. It appears doubtful that the UK in particular would support such an initiative. Moreover, this is likely to provoke considerable resistance in countries with a high standard of data protection and privacy rights. Nevertheless, a structured cooperation could provide more transparency among the intelligence agencies and hence create more trust. This could then lead to a restriction of trans-European activities and eventually to a reduction of potential infringements of fundamental rights.

At the end of the day a decision has to be taken to make the protection of fundamental rights more effective: Either governments try to negotiate a prohibition of trans-frontier operations, which is doomed to fail right from the beginning or, they grasp the opportunity to contain trans-European activities by strengthening cooperation. From a fundamental rights perspective, the latter is the better. ◆

THIS IS AN ARTICLE BY **SEBASTIAN LEUSCHNER**

This article was published on 7 May 2014 on the HIIG-Blog. Sebastian Leuschner's research focuses on the legal bases for cyber security in European Law. He works in the institutes team of researchers that are part of the Network for Civil Security Law in Europe.

THE NETWORK FOR CIVIL SECURITY LAW IN EUROPE

The Network for Civil Security Law in Europe is intended to become a German network with Europe-wide impact strengthening the contribution of German legal scholarship to European civil security research. Within the network, junior researchers inquire the theoretical and practical challenges of civil security in a united Europe.

LILLIPUT

DATA PROTECTION VS. MASS SURVEILLANCE. THREE WORKSHOPS AND ONE CONFERENCE

In times of digital globalisation there is a tension between privacy and data protection on the one hand and big data and mass surveillance on the other hand.

Triggered by the Snowden revelations, to identify and debate the most urgent and pressing issues of this strained relationship was the purpose of a series of workshops and a concluding conference organised and hosted by the KORSE project (the Internet and civil security in Europe) together with the Walter Hallstein Institute for European Constitutional Law at the Humboldt-Universität zu Berlin and the Berlin based stiftung neue verantwortung's privacy project.

Three workshops brought together experienced practitioners, politicians as well as (legal) scholars – in changing compositions. Each session addressed a set of problems regarding the tension between surveillance by state actors and fundamental rights requirements.

The first workshop concerned legal bases and limitations of the German national intelligence services' activities. A closer look at the relevant legal provisions for German intelligence services made clear that due to technological advances the legal framework is vague, outdated and deficient and that there are shortcomings within the parliamentary and court control regarding people who have been under surveillance.

The second meeting took a wider approach considering Internet surveillance and human rights in Europe. The debate whether the Federal Intelligence Service is bound by the German Basic Law when acting outside the German territory and not targeting German citizens was conducted intensely and with much controversy. Similarly vigorous was the subsequent discussion about whether intelligence services are bound by the Convention on the Protection of Human Rights and Fundamental Freedoms (ECHR) when acting abroad. Both debates remained unresolved.

The third workshop dealt with the intelligence services' surveillance practices monitoring telecommunication systems and collecting data by directly compelling private companies to cooperate. There was general agreement that telecommunication surveillance was not transparent for the citizens. The German government does not publish a comprehensive report and clear rules do not exist for private companies as to whether and what they can report about governmental data requests.

The concluding conference had the goal to share the workshops' findings and remaining issues with a broad professional public. It included an international perspective that had been the subject of another preparatory workshop, and addressed the question of whether there is or should be a public international law of the Internet (*Völkerrecht des Netzes*), and if so, how this should be designed. An evaluation of these events showed us that this beginning of a

dialogue was very much appreciated and contributes to filling the gap of insightful discussion about transparency and oversight of governmental surveillance and the adequate protection of fundamental rights of the affected citizens.

The overall idea was that Germany – as well as the EU – can only take a stand for improved legal standards and a higher level of fundamental rights protection in an internationally credible way after it has 'put its own house in order'.

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This text was written by Emma Peters and Hannfried Leisterer. Emma and Hannfried are both doctoral researchers and part of the HIIG research project The Internet and civil security in Europe (KORSE), that organised the workshop series and the conference.

Speakerslist of the conference

SCHUTZ VON PRIVATSPHÄRE UND DATEN IN ZEITEN VON BIG DATA, STAATLICHER ÜBERWACHUNG UND DIGITALER GRENZENLOSIGKEIT

KEYNOTE: GRUNDRECHTSKONFORM? ZUM SPANNUNGSVERHÄLTNIS VON NACHRICHTENDIENSTLICHER AUFKLÄRUNGSARBEIT UND MENSCHENRECHTLICHEN ANFORDERUNGEN VON GRUNDGESETZ UND INTERNATIONALEN MENSCHENRECHTSKONVENTIONEN

Hans-Jürgen Papier, former President of the Federal Constitutional Court (*Bundesverfassungsgericht)*

PANEL 1: PARLAMENTARISCHE KONTROLLE DER DEUTSCHEN NACHRICHTENDIENSTE – WIE SETZEN WIR RECHTSSTAATLICHE UND DEMOKRATISCHE STANDARDS DURCH?

Georg Mascolo, Director of the common research group by NDR, WDR and the Süddeutsche Zeitung, former Chief editor of the Spiegel magazine
Stephan Mayer, Member of the German Bundestag, Member of the committee of Internal Affairs, Member of the NSA committee of inquiry and Member of the Parliamentary Control Panel
Ernst Uhrlau, former President of the Federal Intelligence Service
Hartfrid Wolff, former Member of the Parliamentary Control Panel and the G10 commission

PANEL 2: INTERNETÜBERWACHUNG, WIRTSCHAFTSSPIONAGE UND BÜRGERRECHTE IN DER EU – WIE ERREICHEN WIR EINE EUROPÄISCHE NO-SPY-VEREINBARUNG?

Annegret Bendiek, Stiftung Wissenschaft und Politik
Christian Flisek, Member of the German Bundestag, Chairman of the SPD parliamentary group in the NSA committe of inquiry
Thomas Jarzombek, Member of the German Bundestag, Member of the committee on the digital agenda
Reinhard Priebe, General Director of Internal Affairs, European Commission

KEYNOTE: WIE KANN EINE TECHNOLOGISCHE UND POLITISCHE TRANSATLANTISCHE ZUSAMMENARBEIT MIT DEM RESPEKT DER BÜRGERRECHTE VEREINBART WERDEN?

Ben Scott, Privacy Project, former Innovation Advisor of Hillary Clinton

PANEL 3: WIRTSCHAFT, IT-SICHERHEIT, KONFLIGIERENDE RECHTSPRECHUNG – ABSCHOTTEN ODER GEMEINSAM DIE STANDARDS VERBESSERN?

Benjamin Brake, Head of the Berlin office, IBM Germany
Fritz-Uwe Hofmann, Vice President Public Affairs Germany, Deutsche Telekom AG
Stefan Paris, Head of 'IT and Cybersecurity' and 'Cybersecurity within police forces and constitutional protections', Ministry of the Interior
Kurt-Christian Scheel, Head of governmental and political relations, Robert Bosch GmbH

PANEL 4: PRIVACY IM VÖLKERRECHT DES NETZES

Klaus Lenssen, Senior Business Development Manager, Cisco
Norbert Riedel, German Foreign Office, Special Representative for cyber foreign affairs
Matthias Spielkamp, Member of the managing board, Reporters Sans Frontières Germany, iRights lab
Christian Tomuschat, Professor emeritus for public law, international and european law, former Member of the United Nations Human Rights Committee

Videos of all panels and further information available under www.hiig.de/privacy

RIKKE FRANK JOERGENSEN

Can human rights law bend mass surveillance?

"We have seen how new technologies are facilitating the violation of human rights, with chilling 21st Century efficiency. In breach of international law, mass electronic surveillance and data collection are threatening both individual rights, and the free functioning of a vibrant civil society" (Pillay, December 10, 2013).

The notion of Internet freedom has frequently been iterated by policy makers, not least when speaking of the potential to use the Internet for promoting human rights and democracy. At the 2011 G8 summit, the Internet was addressed in the outcome document, the Deauville Declaration, stressing that the leaders of the group of eight will "encourage the use of the Internet as a tool to advance human rights and democratic participation throughout the world" (II Internet: Article 13). In 2012 this was followed by the first UN Human Rights Council resolution on the promotion, protection, and enjoyment of human rights on the Internet, which affirms that "the same rights people have offline must also be protected online" (United Nations Human Rights Committee, July 5, 2012). In 2013 – more or less at the same time as when the Snowden leaks became publicised – the US, along with other OECD countries launched the new OECD Privacy Framework stressing the need for increased privacy protection in the digital environment (OECD, 2013).

Bearing in mind these recent policy commitments, this paper will examine the increasing gap between the right to privacy and contemporary surveillance schemes. As a concrete example, the US surveillance operation PRISM and its impact on European citizens' right to privacy will be discussed. The paper will start off with a brief introduction to PRISM, continue with an outline of the right to privacy as stipulated in the International Covenant on Civil and Political Rights (ICCPR), the European Convention on Human Rights and the EU Directive on Data Protection, and move on to discuss whether international human rights law such as the ICCPR may be used to bend mass surveillance.

PRISM IN SHORT

On 5 June 2013, whistleblower and former NSA[1] contractor Edward Snowden revealed the first in a series of disclosures addressing digital surveillance programmes operated by US government entities[2]. The revelations addressed one codename in particular, namely PRISM. PRISM (2007) refers to a 'special source operation' run by the United States National Security Agency (NSA) with the aim of collecting and mining a wide range of Internet communication content and metadata. PRISM includes a number of surveillance programmes, such as Upstream, XKeyscore and BULLRUN (Casper Bowden for the LIBE Committee 2013, p. 13 – 14). In Upstream data collection, data is copied from both public and private networks and sent to the NSA from international fibre-optic cables, and from central exchanges which switch Internet traffic between major carriers. The XKeyscore system enables the searching of a "3 day rolling buffer" of "full take" data stored at 150 global sites on 700 database servers

(Ibid). The system integrates data collected from US embassy sites, foreign satellite and microwave transmissions (i.e. the system formerly known as ECHELON), and the Upstream sources above. What's more, Bullrun is the codename for a "multi-pronged effort to break into widely used encryption technologies" (Ibid)[3]. According to the US Foreign Intelligence Surveillance Act (FISA, section 702), the NSA may require a service provider to "immediately provide the government with all information, facilities, or assistance necessary to accomplish the acquisition" of foreign intelligence information. This potentially includes disclosure of keys used to secure data-in-transit by major Internet companies. Personal data collected through PRISM and other programmes is shared in bulk between the intelligence communities of the US, the UK, Canada, Australia, and New Zealand under the Five Eyes agreement (Moraes, December 12, 2013). Other intelligence sharing agreements exist to varying degrees between these countries and EU member states.

THE RIGHT TO PRIVACY

The right to privacy is stipulated in Article 12 of the Universal Declaration of Human Rights (United Nations, 1948) and in Article 17 of the International Covenant on Civil and Political Rights (United Nations, 1966), binding upon 167 states in the world. Moreover, it is part of numerous international and regional human rights treaties and conventions. Article 17 of the International Covenant on Civil and Political Rights (ICCPR) prohibits arbitrary or unlawful interference with anyone's privacy or correspondence and establishes for all state parties a positive obligation to create a legal framework for the effective protection of privacy rights against interference or attacks, irrespective of whether such interference or attacks come from the state itself, foreign states, or private actors (Scheinin, October 14, 2013). The right to privacy protects specific private domains such as a person's body, family, home, and correspondence and restricts the collection, use and exchange of personal data about the individual, often referred to as informational privacy (Westin, 1967)[4].

In a European context, the right to privacy ('private life') is stipulated in Article 8 of the European Convention on Human Rights (ECHR), binding upon Council of Europe states. The first paragraph sets out the rights which are to be guaranteed to the individual by the state, whereas the second part stipulates the conditions under which its interference with these rights may be legitimate. The collection of information about an individual without his consent will always fall within the scope of Article 8. The European Court of Human Rights (ECtHR) has stated that the protection of personal data is of fundamental importance to a person's enjoyment of his right to privacy (S. and Marper v. the UK, December 4, 2008). Interceptions of correspondence and telecommunications interfere with Article 8 and must meet the conditions of paragraph 2 as interpreted by the ECtHR. The ECtHR has accepted that an individual may, under certain conditions, claim to be the victim of a violation occasioned by the mere existence of secret measures or of legislation permitting them, without having to allege that such measures were in fact applied to him or her[5]. It has

also affirmed that the states may not, in the name of fighting terrorism and espionage, adopt whatever measure they deem appropriate[6]. Moreover, the court has developed some general principles that the law providing for covert measures of surveillance of communications by public authorities should meet[7]. First, the law must be accessible and the person concerned able to foresee its consequences for him/her, i.e. the law must be formulated with sufficient clarity and precision to give citizens an adequate indication of the conditions and circumstances under which the authorities are empowered to resort to this secret and potentially dangerous interference with the right to privacy. Second, there must be minimum safeguards for the exercise of discretion by public authorities, meaning that the law should have detailed rules on the nature of the offences which may give rise to an interception order. Third, there should be supervision and review by competent authorities, i.e. adequate and effective guarantees against abuse[8].

Data protection is also a binding fundamental right under Article 8 of the Charter of Fundamental Rights of the European Union (The European Parliament, the European Council et al., 2007), which reflects Article 8 of the ECHR and has a specific legal basis in Article 16 of the Treaty of the European Union (TEU). Moreover, the EU Data Protection Directive (European Commission, 1995) stipulates the rules for data protection in the private and public sector based on the principles of purpose limitation, data minimisation, and the rights of the data subject[9]. Both the TEU and the data protection directive provide for national security exemptions; however, national intelligence services must be in full compliance with the ECHR and the rule of law (Moraes, December 12, 2013, p. 4). Regarding the transfer of data to the US, this is regulated in the Safe Harbour decision of 2000[10] specifying the circumstances under which limitations on the rights of the data subject are allowed, e.g. when it is necessary to meet national security, public interest, or law enforcement requirements. The Data Protection Directive and the Safe Harbour agreement are currently under revision, addressing among other issues the national security exemption in the current data protection regime.

As illustrated, the right to privacy and data protection are extensively regulated within Europe; thus, several instruments exist for enforcing data protection standards within and among European states. The ECHR is binding for Council of Europe states and may be claimed via national courts and as a last resort via the European Court of Human Rights. The EU Data Protection Directive is binding on EU states and transposed into national data protection law with attached data protection agencies. However, neither the ECHR nor the EU Data Protection Directive cover privacy violations that occur outside Europe. EU states may try to negotiate stricter agreements for data exchange with third countries and/or adopt EU legislation that enforces certain data protection standards on Internet companies targeting the EU market, as is currently proposed as part of the revision of the EU data protection regime. Yet in practice, EU states have limited means of enforcing European privacy standards towards the US.

The PRISM case to a large extent involves direct US access to Europeans' (and others') personal data that is stored and processed in the US due to the technical infrastructure of the Internet and because many major Internet services (Google, Facebook, Yahoo, Microsoft, etc.) are US-based. Turning to international human rights law, the question remains, however, whether the PRISM programme violates US obligations under the ICCPR.

PRISM AND HUMAN RIGHTS LAW

On July 4, 2013, the European Parliament adopted a resolution on the US National Security Agency surveillance programme expressing concern over PRISM and other such programmes, specifically on how these programmes affect Europeans' fundamental rights and freedoms[11]. In the resolution, the European Parliament instructed the Committee on Civil Liberties, Justice and Home Affairs (LIBE Committee) to conduct an inquiry into the matter, which has, up until January 2014, resulted in 15 hearings of experts as well as several studies on the issue[12].

As part of the LIBE inquiries, former UN-rapporteur on the protection of human rights while countering terrorism, Martin Scheinin, addressed the lawfulness of the NSA surveillance programmes vis-à-vis US obligations under the ICCPR (Scheinin, October 14, 2013). On the basis of Article 17 of the ICCPR, a General Comment on Article 17 from 1988, as well as other practices by the Human Rights Committee, Scheinin presented an analytical test for permissible limitations upon the right to privacy. The test includes the following cumulative conditions for deciding whether an interference with the right to privacy is justified (Ibid, p. 3)[13]:

a) Any restrictions must be provided by the law;

b) The essence of a human right is not subject to restrictions;

c) Restrictions must be necessary in a democratic society;

d) Any discretion exercised when implementing the restrictions must not be unfettered;

e) For a restriction to be permissible, it is not enough that it serves one of the enumerated legitimate aims; it must be necessary for reaching the legitimate aim;

f) Restrictive measures must conform to the principle of proportionality; and

g) Any restrictions must be consistent with the other rights guaranteed in the Covenant.

continue reading on page 44 ⏭

THIS IS AN ARTICLE BY **RIKKE FRANK JOERGENSEN**

This article was published on 27 February 2014 in the Internet Policy Review. Rikke Frank Joergensen has specialised in the field of information and communication technology (ICT) and human rights. Besides her position with the Danish Institute for Human Rights, she teaches international Master students in communication and globalisation at Roskilde University.

INTERNET POLICY REVIEW

The Internet Policy Review is a news and analysis service about Internet regulation in Europe. It is a publication of the Alexander von Humboldt Institute for Internet and Society. The Internet Policy Review tracks public regulatory changes as well as private policy developments which are expected to have long lasting impacts on European societies. Its expertise resides in its clear and independent analysis of inter-European digital policy changes.

Based on the application of the above test, Sheinin argued that the surveillance architecture of the NSA violates the legal obligations of the US under the ICCPR. Firstly, the surveillance has been based on vague and broad provisions of the Foreign Intelligence Surveillance Act (FISA), thereby lacking a legal basis. The requirement of a legal basis for restrictions cannot be extended to a situation where neither the publicly available law – in this case FISA – nor the secret case law by a secret court provide to individuals precise information about the situations where their privacy and correspondence might be subject to surveillance (Ibid, p. 4). In line with the principles from the ECtHR mentioned above, accessibility and foreseeability of the legal basis are fundamental elements of the requirement of a proper legal basis so that individuals are able to adjust their conduct to the requirements of the law.

Second, the sophistication of the PRISM programme suggests that the degree of intrusion through the mass collection of metadata has affected the inviolable core of privacy. Equally important, the surveillance was not limited to metadata, but instead metadata analysis was used to identify persons whose content data would also then be accessed (Ibid).

Third, it has not been justified that the degree of intrusion employed under the PRISM programme is necessary for preventing terrorism or other serious crime in a democratic society. The failures to provide any privacy protection to non-citizens as well as the large numbers of innocent people being targeted, support the conclusion that the programme fails under the proportionality requirement. Moreover, the absence of a legitimate aim is highlighted as FISA authorises surveillance not only for the prevention of terrorism, but also for the purpose of serving the 'conduct of the foreign affairs' of the US. "This is a legitimate national interest to be pursued by lawful means that do not interfere with human rights but not a pressing social need that would justify interference with the privacy of ordinary people" (Ibid, pp. 4 – 5).

Fourth, there has been a lack of both judicial and parliamentary mechanisms of oversight that could prevent abuses. Moreover, since the operation was based on broad and vague laws, it was open for discriminatory application resulting in interference with other human rights such as the right to non-discrimination, freedom of expression, and freedom of association without proper justification.

As a final issue, the question of extraterritoriality was addressed, since the territorial scope of the state's obligation under ICCPR is crucial in the current context. ICCPR Article 2, paragraph 1, establishes the general obligation of a state party "to respect and to ensure to all individuals within its territory and subject to its jurisdiction the rights recognised in the present Covenant." According to the practice of the Human Rights Committee, this formulation entails an extraterritorial effect, implying that the state has a duty to protect not only individuals within its territory but also individuals that are subject to its control irrespective of the territory[14]. The committee has codified this practice in the General Comment on Article 2, in 2004. "10. States Parties are required by article 2, paragraph 1, to respect and

to ensure the Covenant rights to all persons who may be within their territory and to all persons subject to their jurisdiction. This means that a State party must respect and ensure the rights laid down in the Covenant to anyone within the power or effective control of that State Party, even if not situated within the territory of the State Party"[15]. In Scheinin's intervention, these examples are used to argue a US violation of Article 17 for both US citizens and foreigners, since the US government de facto has had control over – and thus means to violate – the privacy rights of individuals outside the US territory. As stressed in Burgos (see footnote 13), the key issue is not the place where the violation occurs, but rather the relationship between the individual and the state in relation to a violation of any of the rights set forth in the Covenant, wherever they occurred. The question of extraterritorial effect, however, is legally complex and Scheinin's interpretation is largely contested, not least by the US government[16].

USING HUMAN RIGHTS LAW TO DEFEND THE RIGHT TO PRIVACY

In response to the inquiries within the European Parliament, a draft report is currently being prepared by LIBE rapporteur Claude Moraes[17]. The report proposes a European digital habeas corpus for protecting privacy based on 7 actions, including the adoption of the EU data protection reform in 2014, and to ensure proper redress mechanisms for EU citizens in case of data transfers from the EU to the US for law-enforcement purposes. All of the proposed actions focus on strengthening existing EU instruments and EU-US agreements and do not address the lawfulness of the PRISM programme with regard to international human rights law. Yet, some options remain open in this regard.

First, any European state can, in principle, raise an inter-state complaint under Article 41 of the ICCPR. Up until now, the inter-state complaint procedure has never been used, and for political reasons it seems unlikely that European states will resort to this option.

Second, the UN Human Rights Committee examines state parties to the ICCPR and will look at the United States record in March 2014[18], including the question of NSA surveillance. The examination and concluding report will most likely provide specific recommendations to the US government on the PRISM programme and may be useful in further determining the US compliance with Article 17 of the ICCPR, including possible follow-up action on the European side.

Third, the UN Human Rights Council will follow up on the issue as part of the newly adopted consensus resolution on Privacy in the Digital Age (United Nations General Assembly, December 18, 2013). The resolution calls upon member states to review their practices and legislation on the interception and collection of personal data, including mass surveillance, in order to ensure the full and effective implementation of their obligations under international human rights law. It also mandates that the UN High Commissioner for Human

Rights, Navi Pillay, submit a report on the protection and promotion of the right to privacy in the context of domestic and extraterritorial surveillance to the Geneva-based Human Rights Council at its 27th session and to the General Assembly at its 69th session taking place in September 2014.

Finally, further analysis and clarifications are needed in order to substantiate precisely how the human rights principle of extraterritorial effect applies to global data flows. Such analysis and elaboration could inform a long overdue revision of the General Comment on Article 17 from 1988, taking into account the technological developments and current challenges to the right to privacy[19].

CONCLUSION

The PRISM case is illustrative of the vulnerability of the right to privacy in the digital age. The means and measures for interference with personal data are unprecedented, and occur in a global digital domain, outside the reach of national or regional privacy protection. As such, there is a pressing need for legal analysis and recommendations concerning extraterritorial privacy violations vis-à-vis states' obligations under international human rights law. If the many policy commitments to a free and open Internet are to be taken seriously, an authoritative human rights-based response to the protection of privacy in the age of global data flows is urgently needed. ◆

FOOTNOTES

1 NSA stands for the US National Security Agency.
2 The revelations also addressed other programmes e.g., the UK TEMPORA programme.
3 See Bowden (2013) for further elaboration on the PRISM components.
4 According to the Council of Europe Convention of 1981 for the protection of individuals with regard to automatic processing of personal data, personal data is defined as any information relating to an identified or identifiable individual (Council of Europe 1981).
5 Klass and Others, no 5029/71 §§ 30 – 38; Malone v. the United Kingdom no 8691/79 § 64; and Weber and Saravia v. Germany no. 54934/00, §§ 78 and 79.
6 Klass and Others, no 5029/71 §§ 49 – 50.
7 The following principles are a shortened version of the principles outlined in the Council of Europe's draft Explanatory Report on a Guide on Human Rights for Internet Users (Council of Europe December 6, 2013).
8 On October 3, 2013, a complaint was filed with the European Court of Human Rights by three non-governmental organisations from the UK, as well as a German Internet activist against the UK. The complaint argues for a violation of Article 8 the ECHR through UK's involvement in digital mass surveillance, specifically the PRISM and TEMPORA programmes. The legal challenge is available at: https://www.privacynotprism.org.uk/news/2013/10/03/legal-challenge-to-uk-Internet-surveillance/, retrieved January 14, 2013.
9 Framework decision 2008/977/JHA provides the data protection rules for the law enforcement sector when exchanging data within the EU.
10 Commission Decision 2000/520/EC of July 26, 2000, available at: http://ec.europa.eu/justice/data-protection/document/international-transfers/adequacy/index_en.htm, retrieved January 14, 2014.
11 European Parliament resolution of July 4, 2013 on the US National Security Agency surveillance programme, surveillance bodies in various member states and their impact on EU citizens' privacy, available at: http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P7-TA-2013-322, retrieved January 14, 2014.
12 Material from the LIBE inquiries is available at: http://www.europarl.europa.eu/committees/en/libe/events.html, retrieved January 14, 2014.
13 The test is outlined in Scheinins thematic report to the UN Human Rights Council in 2009 (Scheinin 2009: para. 17).
14 As outlined in Sergio Euben Lopez Burgos v. Uruguay, HRC Communication No. R.12/52 "12.1 The Human Rights Committee further observes that although the arrest and initial detention and mistreatment of Lopez Burgos allegedly took place on foreign territory, the Committee is not barred either by virtue of article 1 of the Optional Protocol ('... individuals subject to its jurisdiction ...') or by virtue of article 2 (1) of the Covenant ('... individual~ within its territory and subject to its jurisdiction ...') from considering these allegations, together with the claim of subsequent abduction into Uruguayan territory, inasmuch as these acts were perpetrated by Uruguayan agents acting on foreign soil. 12.2 The reference in article 1 of the Optional Protocol to 'individuals subject to its jurisdiction' does not affect the above conclusion because the reference in that article is not to the place where the violation occurred, but rather to the relationship between the individual and the State in relation to a violation of any of the rights set forth in the Covenant, wherever they occurred".
15 General Comment No. 31, adopted by the Human Rights Committee in 2004, available at: http://www.unhchr.ch/tbs/doc.nsf/0/58f5d4646e861359c1256ff600533f5f , retrieved January 14, 2014.

16 The extraterritorial implications of human rights law is covered by e.g., Milanovic (Milanovic, 2011). For an account of this debate in relation to the current case and Article 17 of the CCPR see e.g.: http://www.lawfareblog.com/2013/11/does-the-iccpr-establish-an-extraterritorial-right-to-privacy, retrieved January 14, 2014.

17 The report is available at: http://www.europarl.europa.eu/RegistreWeb/search/simple.htm?reference=LIBE/7/13778, retrieved January 14, 2014.

18 The US was originally up for review in October 2013, however the review was postponed to March 2014 due to the US government shutdown in October, cf: http://www.ohchr.org/EN/HRBodies/CCPR/Pages/ReviewUSA.aspx, retrieved October 30, 2013.

19 A revised General Comment on Article 17 has been proposed several times, e.g., when the right to privacy in the fight against terrorism was considered by the UN Human Rights Council in March 2010 (Scheinin, 2009). On that occasion, it was also proposed that the Human Rights Council should initiate a global declaration on data protection as a soft law complement to the ICCPR.

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"In order to study social machines I passionately believe that we need to encourage and enable researchers around the world to share data [...]."

THE WEB AS A SOCIAL MACHINE

An interview with Dame Wendy Hall, who has been a guest at our event series Open HIIG Club. Wendy Hall is a Professor of Computer Science at the University of Southampton, and is a Director of the Web Science Institute. In her talk she introduced the concept of the Web as a social machine. It describes an ongoing development of more and more problems beeing solved by large scale human participation via the Web. This development was made possible because there is access to, or the ability to generate, large amounts of relevant data using open data standards, there is increasing confidence in the quality of the data, and human-computer interfaces are becoming far more intuitive and seamless. The interview was conducted by Kaja Scheliga.

Kaja Sheliga: Dame Wendy, you have given this year's Queens Lecture at the Technische Universität Berlin and you have also been our guest at the HIIG Club. You have interpreted the Web as a Social Machine – what role do researchers play in it?

Wendy Hall: The role of researchers is to study how social machines evolve and then, as the evidence grows, to develop models to enable us to predict or forecast how a particular social machine might evolve given it's design and the conditions and/or constraints under which it is being created. In order to study social machines I passionately believe that we need to encourage and enable researchers around the world to share data and data analytics about social machines so that we can undertake longitudinal studies that transcend different research disciplines, cultures and geographical boundaries. We need to be able to establish the experimental basis for this research area so that experimental data can be reused and experiments can be repeated and replicated. It is also important that the data collected and the data analytics performed can be interpreted and further analysed by researchers from other disciplines. We are developing these ideas under the auspices of the Web Observatory project which is being coordinated through the Web Science Trust.

KS: How does the Web impact scientific collaborations?

WH: The Web has fundamentally changed how we do science as well as enabling scientific collaboration. Tim Berners-Lee's original aim when he set out to design the hypermedia system that would become the World Wide Web was to enable physicists to share documents over the Internet. So scientific collaboration was one of the original design features of the Web. As well as enabling scientists to exchange information it has also brought about a complete revolution in the way we disseminate scientific results. The traditional paper based journal is a thing of the past and today we talk about e-publishing, open access, and digital libraries. But more than this, the growth of the Web and the Internet, and the increased computing power that scientists have access to has also given rise to the amount of scientific data that can be collected, stored and analysed. This is transforming research methodologies in virtually every research discipline, particularly the scientific disciplines, and hence the current buzz around big data and data science.

KS: The Web has turned 25 this year. What is your vision for its future?

WH: As the Web turns 25 years old, the Semantic Web, or the Web of Linked Data is finally becoming mainstream as a technology but we have yet to see the effects of the application of this technology at scale. Over the next twenty-five years linked data will become an integral part of the development of data-driven systems architectures that will revolutionise the way

we build and maintain information management systems. Linked data architectures will supersede relational databases, make websites easier to build and unify the worlds of hypertext, document management and databases to create rich interlinked knowledge-based systems as envisaged by the pioneers such as Ted Nelson and Douglas Engelbart over fifty years ago. Today the Web enable us to share and to find information but we infer the knowledge from what we find. As the application of linked data technology becomes more widespread we will be able to build systems that can infer that knowledge for us. This will have far reaching consequences.

But this assumes that the Web and the Internet have the same characteristics in twenty-five years as they do today. Will they stay open and free? What happens if the Internet becomes fragmented by governments seeking to make it more secure or by market forces? How important is net neutrality? How do we balance issues of security against the need to protect our privacy on-line? How do we resolve the conflicting issues of Internet governance? These are the major issues that we need to address today to ensure that in twenty-five years time we have the Web and the Internet we want.

THERESA ZÜGER

Disobey 2.0 – civil disobedience in a digital world

Until today the case of Aaron Swartz leaves those who knew him – and many others who admire him – in despair. He was threatened with 35 years of imprisonment and a one million dollar fine for the unlawful download of 4 million research articles. His suicide was and should remain as a wake-up call: Is it really people like Aaron who deserve to be punished as trouble-makers in our society? Or is it rather the case "that the world is topsy-turvy, that things are all wrong, that the wrong people are in jail and the wrong people are out of jail, that the wrong people are in power and the wrong people are out of power?" (Zinn, 1972, p. 402).

Civil disobedience is a principle-based political strategy that aims to influence laws or political measures by intentionally breaking the law. It is a contested concept in practice as well as in theory. Looking at historical examples, acts of civil disobedience seem to work on two levels: at a confrontational level that is traditionally enacted physically, and at a communication level consisting of speech and presented as verbal expression, writing or body language. However, both levels demonstrate an experienced injustice in a broad sense – it is not only about an unjust distribution of goods, but also about deficits in governance structures or procedures.

In this article I argue that a variety of new forms of civil disobedience challenge the traditional understanding and require us to re-think the concept for the digital age.

The rise of globally networked markets and communication infrastructure has led not only to a change in power relations, but also to a transformation of resistance against them. The Internet, with its multi-level governance and transnational connections, makes tangible the influence of global companies and inter- or transnational governance on the everyday actions of humans. The Internet gets involved as a tool and an arena for political dissidence in a multitude of ways, including new forms of civil disobedience.

The adoption of digital practices has given civil disobedience a new playground. This comes with new tools and a new architecture that change both the confrontational and communicative level of civil disobedience. But how does this adoption of digital practices affect the paradigms of civil disobedience today?

One key change digital adaptations of civil disobedience demonstrate – and maybe even intensify – is that civil disobedience has extended the framing paradigm beyond the state. The previous paradigm defined it as a dialectic action between state citizens and their government. However, by observing current practices, we see the need for a new understanding of 'civil' in civil disobedience that no longer refers to state citizenship, but to a broader understanding of this issue as a belonging to civil society regardless of nationality. Groups of actors collaborate via the Internet in "transversal" (Bentouhami, 2007) movements and gather around their personal passion or concern about a topic.

On another level, we can see a semiotic change. The medium for civil disobedience has been modified: What once was a physical confrontation and verbal or

written speech, is now code or pixels. Acts like website defacement or one of the early cases of digital civil disobedience – the 'crypto controversy' – are, despite their differences in legal terms, examples of disobedient acts that consist in breaking the law by the unlawful use or manipulation of characters, symbols or pictures.

Another use of content for civil disobedience builds upon the Internet's capacity to create hyperreal narratives. Several campaigns by The Yes Men or The Peng! Collective involve staging websites that present a hyperreal narrative and provoke the reader with a fictional modification of reality.

The most discussed digital form of civil disobedience uses the Internet's architecture as a vehicle for protest: DDoS Actions, as used in the case of the Paypal 14. On the one hand, the automation of resistance that DDoS implements, follows the paradigm of automation of human actions that characterises our time; on the other hand this move toward automation raises normative questions about the consciousness, intentionality and control of actors.

Political whistleblowing illustrates another shift in civil disobedience towards a kind of "epistemic disobedience". Manohar Kumar, who suggests this term, explains: "Its need arises out of the informational asymmetry between the executive and the citizens. (...) We can define epistemic disobedience as an illegal act, done on behalf of others, to expose the wrong done under conditions of secrecy, with an intention to bring about change" (Kumar, 2013, p. 157).

Beyond these dimensions, of semiotic, narrative, architectural or epistemic character of civil disobedience, content has become a material in the context of protest against copyright law. Collective disobedience such as The Grey Tuesday defend the remix and its distribution as a legitimate production process of cultural goods.

Another new form of disobedience that often involves content is the violation of terms of service. Of course not every terms-of-service violation we commit on the Internet is a form of civil disobedience. But there are certain cases that can be considered as principle-based acts that break the law intentionally to influence a legislation or political measure, such as Aaron Swartz's case. He was charged on the grounds of the American Computer Fraud and Abuse Act – not for copyright violations, but for the violation of the terms of use of JSTOR and the MIT (Sims, 2011).

One motive that many new forms of civil disobedience have in common is to expand opportunities for participation, either by addressing the need for access to knowledge or by participating in political decision-making processes.

By definition, civil disobedience is an illegal act, and all the examples I have mentioned come with very different legal consequences. The prosecution and charges against several cases that involve digital tactics, such as the Aaron Swartz or the Paypal 14 cases, lead to the impression that not only activists but also governments take digital civil disobedience seriously. In my interpretation, governments overreact to disobedient acts, seeing them as a threat instead of as a call for political and democratic transformation. Nevertheless, not all practices that activists introduce as new forms of civil disobedience might be considered legitimate in the context of a political debate. But oftentimes, this is a question of the legitimacy of tactics rather than a question of the legitimacy of the critique they voice. By introducing new forms of civil disobedience, I do not want to imply that they all necessarily use the wisest, most appropriate and legitimate tactics. Still, some of the harsh punishments show a lack of balance and flexibility in criminal law that prevents it from appropriately addressing new forms of activism and a reasonable longing for change.

Each of these examples of transformation that I have hinted at within this article underline the need to rethink our understanding of civil disobedience for the digital age. Even though they match a minimal definition, of "an intentionally unlawful and principled collective act of protest" (Celikates, 2014), they pose a multitude of questions for political philosophy and society. ◆

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THIS IS AN ARTICLE BY **THERESA ZÜGER**

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DIGITAL CIVIL DISOBEDIENCE

Digital whistleblowing, DDoS actions, or website defacements are only a few of the intentionally unlawful actions that can be called digital civil disobedience. The debate in political philosophy is part of an ongoing discourse about a political concept of civil disobedience and its meaning for contemporary societies. This research project examines if and how existing theories of civil disobedience can still be applied and whether they can cope with the transformation of this phenomena in the digital era.

BALÁZS BODÓ

Hacktivism 1-2-3: how privacy enhancing technologies change the face of anonymous hacktivism

The 2007 official launch[1] of Wikileaks, a platform for potential whistleblowers designed to make sensitive documents anonymously public was a turning point in the history of computer based social activism (or hacktivism (Gunkel, 2005, p. 595), in short). The website has many distinct features which enable it to fulfil its role, such as its close relationship with mainstream media organisations, which both disseminated and fact-checked source documents. However, Wikileaks is particularly relevant for our analysis because of its use of Privacy Enhancing Technologies (PETs). PETs is a general name for a family of software and hardware solutions which aim to shield their users from surveillance of their electronic communications and promise to preserve their anonymity. While many different PETs were developed and in use before it, Wikileaks was the first to provide easy to use PETs for the masses. It was also the first PET application that hit the headlines all over the world.

The easy availability of user-friendly PETs, providing military grade online security to anyone, enables a plethora of social practices. These practices affect, among other, international diplomacy, state security and counter-terrorism efforts. They have a strong influence on the debate around online privacy and the legal and philosophical underpinnings of basic human rights. For the purposes of this article however, we will single out one out of the many possible transformations that PETs, their users and communities are a potential source of: how online political activism and electronic civil disobedience is being transformed.

This transformation is most easily understood through the rise and fall of Anonymous – the ad-hoc online swarm of vigilante activists that represented the face of hacktivism 1.0, and the way the launch of Wikileaks redefined what Anonymous, and its potential really is.

ANONYMOUS 1.0

Anonymous was a name that frequently appeared in articles discussing the events around Wikileaks. It referred to a group of hacktivists who organised mass cyber-attacks in the late 2000s against various online adversaries: individuals that they deemed offensive, companies they disliked or despised. According to their self-description: "Anonymous is not a person, nor is it a group, movement or cause: Anonymous is a collective of people with too much time on their hands, a commune of human thought and useless imagery. A gathering of sheep and fools, assholes and trolls, and normal everyday netizens. An anonymous collective, left to its own devices, quickly builds its own society out of rage and hate. [...] They have no leader, no pretentious douchebag president or group thereof to set in stone what Anonymous is and is not about. This makes them impossible to control or organize. Not really a collective at all – more like a stampede of coked-up lemmings. [...] Anonymous is not a single person, but rather, represents the collective whole of

the Internet. As individuals, they can be intelligent, rational, emotional and empathetic. As a mass, a group, they are devoid of humanity and mercy" (Encyclopedia Dramatica, 2011).[2] Anonymous, which started out as an ad-hoc online group committing mischiefs 'just for the lulz' (i.e., just for fun) soon transformed into a rather chaotic power of vigilante justice. They rallied against laws they thought of as unjust, they turned against what they saw as corrupt businesses and individuals by using methods that usually bordered on (if not crossed) the threshold of legality (Coleman, 2012).

In the tumultuous last weeks of 2010, Anonymous hit the headlines again, this time because they launched a series of attacks against those companies that severed their business ties with Wikileaks. Soon after Wikileaks started to publish the Afghan war logs and the US diplomatic cables, the US government pressured several companies to stop doing business with Wikileaks. When Amazon.com kicked Wikileaks out from its servers, and when MasterCard, Visa and PayPal stopped processing donations for the organisation, Anonymous stepped in and started to organise large scale Distributed Denial of Service (DDoS) attacks against these companies in what they called 'Operation Payback'.

HACKTIVISM 1.0

Anonymous was the latest manifestation of hacktivism 1.0, the electronic civil disobedience that developed in the decades before. Ad-hoc groups of individuals using technology to advance their cause started to organise political actions in the digital space as early as the 1990s. Anonymous' predecessors, such as the Critical Art Ensemble, the Electronic Disturbance Theatre, or the Cult of the Dead Cow were small groups, experimenting with digital resistance and electronic civil disobedience, using the technology as a means for political action (Critical Art Ensemble, 1996; Wray, 1999). Besides tailor-made interventions, these groups have experimented with what they called virtual sit-ins, or distributed denial of service (DDoS) attacks, in which they tried to take down the online web-services of target organisations by flooding them with simultaneous requests. Anonymous, which coalesced not long before the year 2008 in and around the online image board 4chan, followed that tradition, albeit with a twist: rather than being a highly selective group rooted in various artistic and/or political traditions, they were more open, less high-brow and certainly less formal. Their message was that any one and every one is a member of Anonymous who puts on stylised plastic Guy Fawkes mask borrowed from James McTeigue's Hollywood blockbuster V for Vendetta (Kaulingfreks and Kaulingfreks, 2013), and who joins the online swarm rallying for the latest cause. Anonymous updated and democratised the methods they inherited from earlier hacktivist groups: they organised massive DDoS attacks using custom written software tools that enabled participation for even the technically unskilled (Sauter, 2013, p. 984), while more skilled members of the group performed impressive hacks (cracking and defacing websites) and doxxes, i.e., revealing

highly private information on a target individual, including bank account transactions, social security data, private emails, etc.

Anonymous as a group was at its heyday in 2010 – 2011. They were a group that rallied against something. They were resisting something they are left out of, trying to make their voice heard, trying to get in. This is the message of Anonymous: we are united in our position of being excluded. We are united in our position of being outsiders.

The power of Anonymous is that it is a swarm which "attacks from all directions, and intermittently but consistently – it has no 'front', no battle line, no central point of vulnerability. It is dispersed, distributed, and yet in constant communication. In short, it is a faceless foe, or a foe stripped of 'faciality' as such" (Galloway & Thacker, 2007). The plastic Guy Fawkes mask, which became the ultimate symbol of Anonymous was not really about actually hiding the real identity of its members. Though the participation in DDoS attacks is an offence under US law as well as under the Council of Europe's Convention on Cybercrime, the DDoS tools the group distributed to the public made no efforts to hide the identity of its users. As a result, many who participated in Anonymous were arrested in subsequent years (Olson, 2012; Shankland, 2011). Rather, the mask symbolised the universally shared feeling of exclusion, which applied to everyone with no regard to individual differences. The mask was also a reference to the methods of hacktivists of the 1.0 kind: We re-appropriate the entertainment that was offered to us by the military-industrial-entertainment-complex as a substitute for resistance (Adorno & Horkheimer, 1979) and turn it against the status quo (Debord, 1994). Rather than just enjoying the Warner Bros. produced movie and buying the merchandise associated with it, Anonymous appropriated the props and the message, and used them as an inspiration to rally against those very structures that produced the film, which was certainly intended to be entertainment rather than educational material on how to revolt against governments and corporations.

Anonymous embodied the essence of hacktivism 1.0. The latter "breaks down into two broad streams of actions: 1. Mass virtual direct actions, which use cyberspatial technologies of limited potential in order to re-embody virtual actions, [and 2.] digitally correct actions, which defend and extend the peculiar powers cyberspace creates" (Jordan & Taylor, 2004, pp. 114 – 116). On the one hand, hacktivism 1.0 gives technically less skilled individuals the chance to participate in electronic civil disobedience actions. These actions, like virtual sit-ins or DDoS attacks, fit into the tradition of sit-ins and other physical and electronic civil disobedience (Sauter, 2013). Some would argue that various social network-based actions, such as Facebook and Twitter campaigns also belong to this category, where individuals self-organise using Facebook pages and Twitter hashtags to express dissent, build resistance and achieve social change (Lindgren & Lundström, 2011). Such hacktivism requires no technical skills, it is easy to join the swarm and participate in the action. Hacktivism 1.0 could also mean complex technological stunts, committed by a

few, highly skilled computer programmers. The cracking of websites and databases, the disruption of the 'infostructure' of the target organisations, or the development of highly specialised software tools (to aid, for example technically less skilled activists) may yield high rewards, but they are also high-risk, complex, costly and time consuming actions, and as a result they are relatively rare (Coleman, 2013). Hacktivism 1.0 is thus torn between highly effective but rare instances of hacking, and relatively frequent cyber-protests where the place of impact is separated from the place of resistance, and thus yields little more than symbolical results.

The Wikileaks related actions of Anonymous marked the apex of hacktivism 1.0. While such hacktivists gained enormous amounts of press attention, it soon turned out that this attention was the most they could hope for. The power of Anonymous was based on the belief that the sole number of participants would be enough to win any battle. But their effectiveness in terms of disrupting the everyday operations of these companies, or inducing a shift in their policies was nil. Their symbolic victories were short lived. Gladwell (2010) argues that this form of electronic civil disobedience is even counterproductive, since the technological tools of electronic civil disobedience "make it easier for activists to express themselves, and harder for that expression to have any impact. The instruments of social media are well suited to making the existing social order more efficient. They are not a natural enemy of the status quo." The swarm-logic in itself turned out to be ineffective, and the swarm of what proved to be the important question. The lesson of Anonymous was that even if there are millions of them, the disruption that technically unskilled outsiders can cause to the well-fortified corporate and governmental infostructures is very limited indeed.

ANONYMOUS 2.0

Ironically, while everyone was busy with Anonymous (the group, with a capital A), Wikileaks quietly introduced another type of anonymous (the individual, without any capitals), that turned out to be much more important than the "stampede of coked-up lemmings" that Anonymous was.

This new type of anonymous was protected by strong and reliable crypto technology rather than a cheap plastic mask. It was individual rather than a swarm, and most importantly it was on the inside, rather than being on the outside. The anonymous of Wikileaks are those powerful individuals in privileged positions within the existing power structures, who by leaking secrets can safely subvert the very power structures that they define (and that define them), because they can rely on PETs to safeguard their identity.

Leaking classified information to the press and whistleblowing has a long tradition (Alford, 2002; Glazer & Glazer, 1989), and many countries have laws that grant protection

to journalistic sources in order to encourage the watchdog role of the press (Blasi, 1971; Privacy International, 2009; Committee of Ministers of the Council of Europe, 2014; McGonagle, 2014). Wikileaks offers a technological solution to the age-old problem of how to protect the identity of a source, whose willingness to cooperate ultimately depends on his/her ability to remain safe by staying anonymous. Relying on the traditional methods of conspired meetings and often-contested legal safeguards is costly and risky. Wikileaks hoped to lower the threat of de-anonymisation through the creation of a safe technological space in which the identity of the source is protected by strong cryptographic algorithms, obfuscation and other software and hardware tricks. The sheer number of secrets exposed through Wikileaks, and their subsequent impact proves that access to low cost, easy-to-use PETs can significantly lower the costs of exposing and confronting power from within (Lipman, 2011, p. 119 – 123) and thus enables a new type of hacktivism with immensely greater transformative potential than what its predecessor ever hoped to have. Anonymity in the context of Wikileaks offers, through the technological identity protection of whistleblowers, a chance for the individual to expose and confront the very structure of power from within.

HACKTIVISM 2.0

Keeping power under control through coerced transparency was the original idea of Julian Assange, the creator of Wikileaks. In his essay, dating back to 2006, he described the role of Wikileaks in keeping power under control: "The more secretive or unjust an organization is, the more leaks induce fear and paranoia in its leadership and planning coterie. This must result in minimization of efficient internal communications mechanisms (an increase in cognitive 'secrecy tax') and consequent system-wide cognitive decline resulting in decreased ability to hold onto power as the environment demands adaption. Hence in a world where leaking is easy, secretive or unjust systems are nonlinearly hit relative to open, just systems. Since unjust systems, by their nature induce opponents, and in many places barely have the upper hand, mass leaking leaves them exquisitely vulnerable to those who seek to replace them with more open forms of governance" (Assange, 2006).

The task of keeping power transparent requires a new type of hacktivist, who has the necessary tools to coerce that transparency on power. Anonymous 2.0 is the source of a new type of hacktivism, hacktivism 2.0. While hacktivism 1.0 was the activism of outsiders, and its organising principle was to temporarily get outsiders into the territory of the other, hacktivism 2.0 is done by insiders. While it is certain that technology in itself cannot and will not be the (sole) solution to anything (Morozov, 2013), in other words one cannot solve problems through technology only, having access to the right tools at the right time, when the demand is there certainly helps. Hacktivism 2.0 cannot exist without PETs, whose one important purpose is to help people get information out from an organisation. PETs, like in the way Wikileaks put them into use, shift the source of potential threat

from a few dangerous hackers and a larger group of mostly harmless activists – both outsiders to an organisation – to those who are on the inside. For mass protesters and cyber activists anonymity is a nice feature, but it isn't necessary or even desirable under every circumstance. Putting a name and a face next to a political action is sometimes the most powerful form of protest. On the other hand, for insiders trying to smuggle information out, anonymity is a necessary condition for participation.

Easy anonymity lowers the risks and costs associated with dissent, and thus radically transforms who the activist may be. It turns a monolithic, crystal clear communal identity defined solely through opposition into something more complex, multilayered, individual and hybrid by allowing the cultivation of multiple identities, multiple loyalties. Being anonymous is an identity play, and as an identity play, it is a loyalty play. As an identifiable member of the society, the individual is bound by formal and informal attachments and hierarchies, the breaches of which are severely and instantly punished. Being anonymous means that one's identity and loyalty is up for grabs, it is fluid, it is independent, it is freed from its social base. PETs support the development of new loyalties that are detached from what is seen as corrupted and failing national identities, a debilitating chorus of corporate anthems, historical determination and the normalising judgment of Facebook peers. When this happens, one's 'proper' identity, one's real name turns into a mere pseudonym that serves to hide one's 'real' identity, one's true loyalties. "People are asked to identify personally with organisations who can either no longer carry historical projects worthy of major sacrifices or expressly regard their employees as nothing but expendable, short–term resources. This [...] creates the cognitive dissonance that justifies, perhaps even demands, the leaker to violate procedure and actively damage the organisation of which he, or she, has been at some point a well–acculturated member (this is the difference to the spy). This dissonance creates the motivational energy to move from the potential to the actual" (Stalder, 2010).

Being anonymous allows those who do not want to define themselves – at least not publicly – as an activist, radical or dissenter to enter the activist scene. The promise – or rather, the condition – of anonymity in the context of Wikileaks is that one can be on the inside and on the outside at the same time. Through anonymity the mutually exclusive categories of inside/outside, cooperation/resistance, activism/passivity, power/subjection can be overridden and collapsed.

Assange's quest for a well mannered and well-behaving, ethical, productive and accountable power created by the Wikileaks transparency is very similar to the benefits Bentham assigned to his Panopticon design[3], as cited by Foucault: "Morals reformed – health preserved – industry invigorated – instruction diffused – public burthens lightened – Economy seated, as it were, upon a rock – the gordian knot of the Poor-Laws not cut, but untied – all by a simple idea in architecture!" (Foucault, 1979) Wikileaks' coerced transparency

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THIS IS AN ARTICLE BY **BALÁZS BODÓ**

This article was published on 28 November 2014 in the Internet Policy Review. Balázs Bodó is an economist and piracy researcher at the Institute for Information Law (IViR) at the University of Amsterdam.

INTERNET POLICY REVIEW

The Internet Policy Review is a news and analysis service about Internet regulation in Europe. It is a publication of the Alexander von Humboldt Institute for Internet and Society. The Internet Policy Review tracks public regulatory changes as well as private policy developments which are expected to have long lasting impacts on European societies. Its expertise resides in its clear and independent analysis of inter-European digital policy changes.

extends the Foucauldian disciplinary power to the very body of state and government by placing power under the surveillance of anonymous subjects. But while it may be true that the Panopticon produces more efficient, more productive, more obedient, and more controlled subjects, it remains to be seen whether the outcome of applying the panoptic schema to power yields anything more than more panopticism.

The way the US state apparatus has reacted to Wikileaks clearly illustrates this dilemma. In a memorandum issued on 3 January 2011, the National Counterintelligence Executive and the Director of the Information Security Oversight Office detailed the procedures by which they hoped to prevent any further leaks. The document is a 14-page long checklist covering all aspects of keeping secrets: "the measures in place to determine appropriate access for employees to classified information"; the existence of counterintelligence programmes; the use of back-up media; "a trend analysis of indicators and activities of the employee population which may indicate risky habits or cultural and societal differences other than those expected for current employees for security clearances" and the "use [of] psychiatrist and sociologist to measure the relative happiness as a means to gauge trustworthiness, and the despondence and grumpiness as a means to gauge waning trustworthiness" (Lew, 2011, p. 6).

This document, as well as the recommendations formulated in reaction to the Snowden revelations (Office of Management and Budget, 2014) is the blueprint for an internal total transparency (i.e., total surveillance) programme that is designed to maximise the control over the state apparatus by detecting potential leakers and preventing information breaches. The state reacted to the threat posed by hacktivism 2.0 by creating a transparency of its own. This is the classic example of internalisation (Scott, 1971): the state, under surveillance, has internalised the expectations and now is busy learning how to make sure that what is not to be shown stays truly hidden. Secrets to outsiders can only be protected through total transparency on the inside. This is the problem with total control: it does not annihilate undesired behaviour; it does not mute and reform inappropriate and prohibited desires, it only suppresses them, and fosters secrecy and deceit. Transparency will not break the logic of power based on panopticism: "The panoptic schema, without disappearing as such or losing any of its properties, was destined to spread throughout the social body; its vocation was to become a generalized function. [...] On the whole, therefore, one can speak of the formation of a disciplinary society in this movement that stretches from the enclosed disciplines, a sort of social 'quarantine', to an indefinitely generalizable mechanism of 'panopticism'" (Foucault, 1979, p. 207). The transparency of Wikileaks does not counter this process, it reinforces it. By putting the locus of power under surveillance it simply draws the state under this form of control, putting the last missing piece of the puzzle in place. In the same sense, Wikileaks only propagates the control it wishes to subvert. It only helps the logic of panopticism to fold and close upon itself.

ANONYMOUS 3.0

There are two types of anonymity: that of the observer, and that of the subject, both immensely empowering. The transparency which Wikileaks coerces on power through the leaks of anonymous whistleblowers extends the Foucauldian disciplinary power to the very body of state and government. But while the anonymity of the subject removes the individual from existing power relations, the act of surveillance, the idea on which Wikileaks is based, puts her right back to the middle.

Anonymity, in the context of PETs offers more than just the ability for the individual to put power under surveillance. Anonymity enables the individual to – at least partially – remove herself from the pre-existing discursive determinations and power relations and consider alternatives. Anonymity is more than just a technology to control power. It is also a technology of individual and collective freedom. "If governmental rationalities operate through the nomination and specification of a positive identity through a series of constitutive exclusions, rarefactions and restrictions, then the practices of freedom are enabled by withholding the knowledge of oneself, resisting the injunction to a 'confessional' self-expression, declining the incitement to active participation in the governmentally sanctioned discourse. Anonymity may then serve 'to encourage freedom by increasing the scope of actions not susceptible to official observation, records and interpretation'" (Prozorov, 2007, p. 62, citations omitted).

The Snowden revelations (The NSA files, 2013) perfectly illustrate the difference between the potential of anonymous 2.0, engaged in the surveillance of power, and anonymous 3.0, which uses PETs to disengage and disappear altogether from the radar screen. Without Snowden, the whistleblower (who, in this case chose not to remain anonymous and thus now lives in exile), we would not have hard evidence on how power operates in the digital age, on how the ubiquitous surveillance of electronic communications trumps fundamental human rights and on how the lack of privacy is a direct assault on a number of individual and collective freedoms (La Rue, 2013, p. 15). The subject's position of being "a multiplicity that can be numbered and supervised", its state of living in a "sequestered and observed solitude" (Foucault, 1979, p. 201) can only be subverted if there is a place, hidden from surveillance where we are free to make our choices (Bauman & Lyon, 2013; Bogard, 2006). PETs are important because they allow the individual to counter surveillance, and thus liberate individuals, when other safeguards of freedoms and liberties are lacking or lagging behind.

The PETs provisioned anonymity allows individuals to enjoy certain freedoms. If everyday citizens have an autonomous zone (Bey, 1991), a safe haven, hiding in the discontinuities of cyberspace, from where they not only can oversee and control the state apparatus; but which is safe from surveillance and outside interference, which is peer-produced and

thus reflects the ethical and ideological consensus of its users (Bodó, 2014), then we have a virtual space which is not locked down in the oppositional struggles of the status quo, but has the potential to develop something completely independent from it. Free, autonomous individuals, having the potential to create their own world in the autonomous space without surveillance and interference: this is the promise of post-Wikileaks PETs, and the task ahead of hacktivists of the third generation.

POLICY IMPACT

As it stands now, PETs are the only at least relatively effective safeguard against total surveillance. On the other hand, the same PETs that protect the basic human rights on the digital networks are being used in a number of other situations by a number of other groups to, for example, trade in drugs and arms, or exchange child pornography (Bodó, forthcoming). PETs are thus increasingly threatened by law enforcement (Masnick, 2014), and the often legitimate goals to catch PETs-using paedophiles and assassins is in clear conflict with the interests of many others who use the same technologies, the same networks to protect their privacy.

There are deeply vested economic and governmental interests to keep the network open for surveillance. If PETs are able to prevent surveillance, then we should expect a long term conflict between the technology-based and the normative and legal based agents for control. We have already seen similar conflicts in regard to file-sharing technologies, where rights holders have long been trying to delegitimise and outlaw the use of P2P software (Giblin, 2011). As a response, P2P software developers came up with ever more autonomous systems, which were always able to be one step ahead of any copyright enforcement effort. We should expect and be prepared to deal with policy interventions that aim to delegitimise and outlaw the use of PETs, in a similar manner. Unless we all have well defined and well protected digital rights, the second best option of PETs is all what we have. Academics and activists should be prepared to defend these technologies, as they seem to be one of the few technologies of freedom (De Sola Pool, 1983) we are left with.

CONCLUSION

With the fall of Anonymous, the era of hacktivism 1.0, done by swarms of harmless outsiders is nearing an end. It is superseded by a much more potent form of hacktivism, which relies on insiders to expose the ways power operates and create a more transparent society. This type of hacktivism, which may be an effective way to control power, relies on easily available military grade PETs to provide anonymity for insiders, making everyone a potential whistleblower. The same PETs and the same anonymity, however, allow for

another type of hacktivism, which, rather than being locked in a diametric relationship with power aims to create its own autonomy through avoiding surveillance.

Which type of hacktivism is more relevant for the future? It depends on our answer to the question of how to be truly free in the age of ubiquitous surveillance. If we think that it is enough to put the observers under surveillance, then the Wikileaks introduced hacktivism 2.0, which relies on anonymous insiders coercing transparency on power may be the answer. However, Galloway and Thacker (2007, p. 41) argue that control in a networked society functions through the data produced by individuated subjects. If we agree, then negating this control is not to gather data on the observers – which is nothing more than being engaged in the oppositional (symmetrical) power relationships, but to be what anonymous really means: invisible. Invisible in its strictest sense: being beyond the determinations that define the identity and the discourse. The function of hiding behind a mask, in this context only makes sense if rather than all of us hiding behind the same Warner Bros. licensed Guy Fawkes mask, we all have our own mask to wear.

Whatever we think of the right course of action, both types of civic activism depend on the easy availability of strong Privacy Enhancing Technologies. Software technologies, such as PETs or P2P file sharing software are created in the niches between the actual, the potential and the desired. They are the products of particular social, political, economic conditions and reflect the opportunities, the threats, and most importantly the perceived failures and deficiencies in and around the contexts in which they are born. Technologies enable the emergence of new and unexpected social practices, which in turn become the subject of interpretation in multiple discursive contexts. The major impetus for Tor's development was the US military's need to communicate without the threat of foreign surveillance. Its easy availability for everyone is based on the understanding that secret communication is best hidden in the noise created by others communicating in secret. Allowing individuals to negate control may not have been the primary aim of providing governmental funding to, or the primary goal of the development of PETs. But now, lacking any other effective legal or political protection of human rights and other constitutionally protected freedoms, we rely on PETs to have at least a modicum of privacy. This situation is far from being ideal, but currently this is the best we can hope for. For this reason it is essential that PETs be protected from efforts of delegitimisation and illegalisation. PETs may come with the cost of giving up considerable amounts of security. But this has always been the price of freedom. ◆

FOOTNOTES

1 In a previous version of this article the launch of Wikileaks was accidentally dated to 2010. This was a mistake.

2 Encyclopedia Dramatica (ED) is an open wiki, collecting Internet memes and providing satirical commentary on current events. Its tone and subject matter is closely related to the online subcultures with which the Anonymous movement is often associated. It hosts one of the several manifestos attributed to and descriptions of the Anonymous group. Since it is rhizomatic and anonymous, it is impossible to identify a single authoritative source of Anonymous' self-definition. The ED article on the topic should be considered collaboratively written and edited by anonymous individuals who feel related to the group, and as such, it is probably as good of a self-definition as one can get.

3 In the 18th century the English philosopher Jeremy Bentham proposed the 'Panopticon', a new, unique prison design, in which all the prison cells are observable from a single, centrally located watchtower. It is designed to force inmates to adjust their own behaviour to what they believe is expected of them by the invisible observers in the watchtower.

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SPORTS AT THE HIIG

Following a hard day's work drafting scientific papers, or organising both informative and thrilling events, it is the right time to relax and have a well-earned drink... or in the case of HIIG's employees to start working out! Sports have been a key competence during 2014, culminating in the successful participation of three teams in Berlin's largest relay event – the Berliner Team-Staffel. 2015 already promises to outdo last year's result by far and Adrian Haase, the HIIG's Official Representative of Physical Exercise (*Sportbeauftragter*) could not be more proud of his team's efforts!

ADRIAN HAASE AT THE BERLINER TEAM-STAFFEL

Berliner
LAUFEN,

HIGHLIGHT

INTERNET GOVERNANCE

Internet governance, the global regulation of the net, appears to be a rather obscure domain to most users of the Internet. Internet governance concerns itself with all the issues that cannot be solved on the national level. 2014 turned out to be an important year for Internet governance. Two topics dominated the global discourse throughout the year: As a response to the disclosure of mass surveillance on the Internet, Brazil organized the NETmundial conference for governments, private sector and civil society to flash out a statement that would firmly ground the global regulation of the Internet in basic human rights principles. The HIIG as well as the Network of Centers were actively involved in the organisation of the conference.

In the aftermath of NETmundial, another big debate unfolded on the accountability of Internet governance structures. Namely, should the US government step down from its traditional oversight role for Internet infrastructure, and if so, who or what is able to replace the role of a public authority. Debates on accountability and universal principles may indicate that the transnational digital sphere undergoes a period of ordering or even constitutionalisation. Various modes of ordering the Internet were also the subject of the HIIG's annual conference. Reflecting our interdisciplinary approach, we organised three intersecting panels on the idea of the multi-stakeholder approach, the role of digital technology in regulating online behaviour and, finally, on the regulation of digital content. The lively discussion among our international audience produced many intellectual highlights. My personal one was perhaps Seda Gürses' sharp critique of threat models used in today's security engineering.

__ JEANETTE HOFMANN

INTERNET GOVERNANCE. ACTORS, TECHNOLOGY, CONTENT.

The question of how to globally govern the Internet is one of the most pressing issues within the field of Internet and society. The Alexander von Humboldt Institute for Internet and Society contributed to this debate by shedding light on Internet governance with the academic symposium *Internet governance. Actors, technology, content*, that was held in Berlin on 9 – 10 October 2014.

The session on actors of Internet governance examined the performance of the multi-stakeholder approach and particularly discussed the sources of its legitimacy. In the second session the concepts of technology in governance processes were debated, especially the 'lost in translation' problem and the widespread use of black-box delegation. The ability of private actors to control the production, dissemination, and use of user-generated content was the topic for the third session.

SPEAKERS' LIST

KEYNOTE

Jeanette Hofmann, Humboldt Institute for Internet and Society, Berlin

SESSION I: ACTORS

Ryan Budish, Berkman Center for Internet & Society, USA
Dmitry Epstein, University of Illinois at Chicago, USA
Marianne Franklin, Goldsmiths, University of London, UK
Francesca Musiani, Centre for the Sociology of Innovation, France

SESSION II: TECHNOLOGY

Jan-Philipp Albrecht, Member of the European Parliament, Belgium
Gloria Gonzalez Fuster, Vrije Universiteit Brussel, Belgium
Seda Gürses, New York University, USA
Björn Scheuermann, Humboldt-Universität zu Berlin, Germany

SESSION III: CONTENT

Leonhard Dobusch, Freie Universität Berlin, Germany
Niva Elkin-Koren, University of Haifa, Israel
Jillian York, Electronic Frontier Foundation, USA

OSVALDO SALDÍAS

The virtual judge. On the butterfly-effect of Internet-enabled judicial review

In July 2014, I had the privilege of holding a lecture at the Brazilian Institute for Public Law and Public Administration (IDP). Although the topic was an analysis of the regional impact of *Marco Civil da Internet*, it gave me the opportunity to have a closer look at the fascinating developments in the digital modernisation of the State, which confirm that we (myself included) too often tend to dismiss the efforts in the global south as lagging behind Europe or the US. In doing so, we fail to recognise the profound institutional and legal changes that Internet-enabled innovations can trigger within our public administration. We, at the research group on the Digital Public Administration, are interested not only in the adoption of Internet-based technology by the public sector, but in the legal, institutional and organisational transformation of the administrative state.

One fascinating case of digital transformation is what I call the 'the virtual judge' because it owes its transformative impulse not to an enabling law (like the German e-Government law), or a distinctive top-down policy (like the American cloud-first policy), but to the vision of higher public officials, who decided to take their own initiative to re-shape the administration of justice. In doing so, they not only produced an unprecedented wave of optimisation and transparency within the Brazilian judiciary, but also materially influenced the highly formalised interpretation of constitutional law.

Here is the story: The Brazilian judicial system has a Constitutional Court, the *Supremo Tribunal Federal*, established in 1890 and consequently ratified by the constitutions that followed. Among other constitutional attributions, the Court has the power to review the rulings from lower courts through a distinctive judicial remedy called *Recurso Extraordinario*, which aims at assuring "the positive integrity; validity, the authority and uniformity of the interpretation of the Constitution" (Pontes de Miranda, 2002, p. 39). This procedure was established by the Constitution of 1891 and took inspiration from US law. Administratively, the parties file this remedy before the same inferior court that issued the contested judgement; and the latter conveys the file to the Constitutional Court.

The rapid growth of cases that reached the Court made it increasingly difficult to deal with them in a timely fashion. During the 20th century, the Court repeatedly tried to restrict the requirements of admissibility. From 1975 onwards, the Court introduced the term 'claim of relevance' (*arguição de relevância*), with the explicit goal of filtering the workload. However, because the Court decided the question of relevance in small, private council sessions and behind closed doors, the initiative faced massive criticism because of its lack of transparency and legitimacy (Sanches, 1988, p. 259 cited by Fuck, 2010). The Court was pushed to increasingly hand down functionally-defensive rulings (*jurisprudência defensiva*) (Mendes, & Branco, 2014, p. 1102), where formalistic quarrels dominated over the higher task of harmonising the interpretation of the Constitution (Fuck, 2010, p. 22, 24); and yet, there was no way to handle the growing backlog.

In 2004, a constitutional amendment introduced an explicit requirement for the Constitutional Court to admit the judicial remedy. It required that for the matters to be reviewed by the Court, the core legal issue had to bear general repercussions (*repercussão geral*). If the case does not have the potential for general (constitutional) repercussions, the case is not admitted for review. The overall goal of the amendment was to alleviate the Court's caseload and bolster the multiplicative effects of its rulings.

The procedure for establishing whether or not a judicial quarrel has the required 'general repercussions' is a novelty for the Brazilian and many South American judicial administrations. In addition, the Court's internal ordinance (*regimento interno*) introduced in 2006 the possibility of optimising procedures like this with the help of 'electronic means'.

The Constitutional Court used this administrative window of opportunity to reorganise its work and introduced the 'virtual plenaries', an online platform that allows the judges of the Court to conduct a legal debate with written statements. Most importantly, the online platform includes a voting app that tracks the opinions and votes of each single judge in regard to the issue of whether the case at stake has the required 'general repercussions' for being admitted to review or not. Instead of deliberating in a formal hearing, the judges can view the main opinions of their peers and the statements of the litigating lawyers, and cast a vote within 20 days counted from the moment the case was posted on the Court's website.

The spectacular and innovative nature of this new procedure lies in the fact that the voting record can be followed in real time during the twenty days as each judge casts their vote in the moment that vote occurs. Additionally, the Court has rearranged the formats of the lawsuits, compelling the parties and the inferior courts to adapt their reports so as to suit the file descriptors of the online platform. When cases arrive at the Court, it is expected that they contain the new coding, an executive summary, as well as a suitable snippet that makes the online search on the website more user friendly.

Up to this point, the plan worked on paper. In order to make these change work in practice, the Court had to engage in a dialogue with the subordinate judges, and socialise the benefits of the new electronic means. Lower courts were used to submitting the court files without scrutinising whether the plaintiffs had complied with all formal requirements in their scripts. Now, as the 'virtual plenaries' are accessible through the Internet, lower judges must adapt to the internal search functions of the platform, and summarise most of the information before it reaches the Constitutional Court. Of course, much of this socialisation has spilled over to litigators, who have also adapted their written presentations to fit the online mask of the plenary. The gain in efficiency has been so spectacular that the Court has reduced its backlog from 10,000 cases, to less than 2,000 cases; and the number is continually falling. This has allowed the Court to oversee the content and

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THIS IS AN ARTICLE BY **OSVALDO SALDÍAS**

This article was published on 15 August 2014 on the HIIG-Blog. Osvaldo Saldías holds a law degree, an M.A. in European political studies, and a PhD. He is a project coordinator within the institutes research area Global Constitutionalism and the Internet.

GLOBAL CONSTITUTIONALISM AND THE INTERNET

Global constitutionalism is primarily understood as a normative theory that focuses mainly on the individual – not so much on the nation state. It finds an expression in generally recognised normative principles such as human dignity, democracy and participation, the division of power and the rule of law. The multitude of global challenges and the increasing density of the relations among people in the emerging global civil society are the reason for the search for legitimate structures and efficient regulatory processes beyond the state. Social networks, access to information, knowledge and culture, as well as new forms of open government, also change the state itself and its relationship to the individuals within it. The research area Global Constitutionalism and the Internet is therefore comprising national, sub-state and transnational structures of political order.

relevance of the cases, underpinning the effort to become a court that is able to accurately select its cases in order to produce judicial precedents. A shift – I am told by local observers – that aims to bring the Court closer to the style of the German Constitutional Court.

In addition, the Brazilian judiciary began broadcasting important hearings on Youtube. This has led to interesting developments in the legal profession. Watching TV or Youtube streaming is becoming an inherent part of the work routine in specialised law firms. Instead of large libraries, they are opting for comfortable couches in multimedia rooms. Some practitioners told me that their colleagues are also developing impressive performativity skills as they now face an enlarged audience through the webcast sessions.

In sum: Internet produces marked transformation within the public administration. And yet, the analyst usually assumes that organisational change and legal transformation follows a kind of master plan (like an e-Government law or strategy). If we look carefully, however, we will see important transformations within our public administration that begin with a subtle improvement by, for instance, a visionary judge followed by a butterfly-effect that can change even the interpretation of constitutional law. The story of the virtual plenaries should encourage us to complement dominating analytical perspectives on e-Government that focus on big strategies or general laws with cases of functional public innovation at the micro-level. The digital public administration we are looking for might present itself in charming stories like that of the Brazilian 'virtual judge'.

—

Words of gratitude: I would like to thank Min. Gilmar Mendes judge at the Supremo Tribunal Federal, and his professional staff, especially Luciano Fuck, Marco Reis Magalhães and Sergio Ferreira Victor for helping me understand the Virtual Plenaries. All errors remain mine.

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INSIDE NETMUNDIAL. DISCUSSING THE FUTURE OF THE WEB

Would it be exaggerated to claim that the year 2014 has been a milestone year for Internet governance? What with the first global multi-stakeholder meeting on the Future of Internet Governance, the NETmundial, ever to be held? Its outcome may have been too much of a compromise for many but it is still proof of an unprecedented process and might be a first step towards a common framework of principles for the Internet.

Being one major field of research for the Humboldt Institute for Internet and Society, missing the NETmundial debate was not an option. HIIG director Jeanette Hofmann has been appointed as a representative of the academia within the Board of the NETmundial conference. In the following, she offers insight into the modus operandi of the multi-stakeholder conference, which took place in São Paulo in April 2014.

WORKING IN A GLOBAL MULTI-STAKEHOLDER ENVIRONMENT

The final declaration of the NETmundial conference starts with the statement that this meeting was the first of its kind. In fact, this was the first time that governments, representatives of the private sector and the civil society met on an international level to agree on a common final document, based on the multi-stakeholder principle. During the discussions, there were moments with a sense of historical significance concerning the Internet.

The historic conference took place against the backdrop that the Internet Governance Forum (IGF), the prototype of a global multi-stakeholder process, is showing clear signs of weakness. The Internet community is tired of discussing for the sake of discussion – and would prefer the IGF to focus more on tangible results. However, practical steps in this direction seem to take quite some time, probably also because of a lack of practical and consensual ideas how such a multi-stakeholder process could agree on real results. NETmundial has brought new life to the issue, showing that it is possible to further the multi-stakeholder approach and make it politically productive.

Before the meeting, everyone involved was aware that there would be no overarching consensus on all the relevant aspects of the draft declaration. Even the title of the final document turned out to be controversial: should it be a declaration or an outcome document, a statement, NETmundial records or a chairman's report? Until the end of the conference, there were several possible options.

Before the meeting, the NETmundial Board – which I was a member of – had been brooding for hours about how the range of different viewpoints could be summed up without creating the impression that the entire debate was 'pre-cooked' in the sense of having been arranged in advance. Everyone involved was aware that the modus operandi of NETmundial, especially the negotiation procedures, would be crucial for the legitimacy of its outcome. It is easier to live with painful compromises if the prior considerations are transparent and, above all, took place on a fair basis – which is what Niklas Luhmann once referred to as "Legitimacy by Procedure". Therefore, we placed great emphasis on principles such as eye-level meetings between stakeholders and governments as well as transparent discussions and text production processes. The following implementation of the principles was kind of a laboratory experiment that could also have gone wrong. Two of the process elements are especially noteworthy because they could be adapted and re-used for future meetings: the public debate on the draft declaration and the subsequent text editing. For the discussion of the text, four microphones were set up in the room, one each for the representatives of the governments, the economy, the civil society and academia/the technical community. The debate itself was divided into rounds with a speaking time of two minutes for all stakeholders, plus two time slots for 'remote participants'. In this way, it was not only possible to ensure that all the groups would have the same speaking time, but also to enable other interested parties to participate in the process.

Following the public debates, the two carefully balanced teams worked on the draft declaration together. In order to ensure transparency during this crucial stage, the text revision took place in public. Everyone was invited to take a look over our shoulders; large screens showed how certain passages were modified. The spectators were merely not able to join the debate. On the first evening, more and more people came over to watch. At times, the whole thing became kind of a happening and the noise level made it difficult to work. On the other hand, it was the openness of this process that saved the meeting from turning into a failure. Even during the last few hours of negotiating, the parties discussed specific aspects of the most sensitive political issues such as monitoring, network neutrality, copyright, and the liability of content intermediaries on the Internet. In the end, it was especially the civil society that had to accept setbacks in order to keep the NETmundial-ship from capsizing, as one observer put it.

While the participants largely approved of the NETmundial process, there were much more diverse reactions to the final declaration. For a short period, some of the civil society groups even considered leaving the closing ceremony.

DECLARATION AND ROADMAP

The work on the draft declaration had begun months before the meeting. Version #2 was to be discussed in São Paulo. The first version had provoked 1,370 comments within a week; an impressive number for the global Internet community. Most of the reactions were related to the first part of the document, the "Internet Governance Principles", which reflected the

demands of the Brazilian President Dilma Rousseff, who – as a reaction to Edward Snowden's revelations – had advocated for "high level principles" of Internet regulation. In this context, civil society groups had fought to anchor Internet governance in the general principles of human rights. At the same time, all forms of mass surveillance should be labelled as incompatible with the basic human rights and the principle of proportionality. The governments, however, did not agree – and the entire passage concerning mass surveillance was struck out at the last minute. The civil society did only succeed in achieving some setbacks for the Internet industry, which had tried to lay down formulations on human rights that were more open to interpretation. There was also a tussle about the principle of net neutrality, which – especially in developing countries – is being undermined at worrying levels and with serious consequences regarding access to the Internet.

While the direct connection between Internet governance and human rights issues is perceived as a political progress, many think that the second part of the final document, the "Roadmap for the Future Evolution of Internet Governance" is not to be seen as an improvement of the status quo (Miller, 2014, April 27; Gross, 2014, April 27). Challenges that have already been acknowledged elsewhere – such as the need for a reform of the IGF, the need to improve cooperation within the Internet governance landscape or the upcoming re-organisation of how ICANN and IANA are being overseen – are listed here too, but without any qualitatively new accents. At least, the problems of mass surveillance as well as collecting and processing data by public and private actors are mentioned.

What remains is the unprecedented experience of a cross-sectoral cooperation concerning Internet governance, in which the authority and resource-specific differences between governments, the private sector and the civil society seemed to be reduced to a minimum – at least for a short while. For that reason alone, NETmundial is already considered a milestone in the history of the Internet.

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MONIKA ERMERT

Trials and tribulations of changing oversight of core Internet infrastructure

CHANGING OVERSIGHT OF CORE INTERNET INFRASTRUCTURE: MUCH PROCESS, LITTLE TIME

The Internet naming, numbering and standardisation communities are falling over their feet to meet the deadline of next September for fixing the future oversight of Internet Assigned Number Authority (IANA). While some fear it might be the only opportunity to end the privileged overseer's role of the United States government, others warn against a rushed solution that would leave aspects of the core Internet infrastructure at the mercy of a private California-based company, namely the Internet Corporation for Assigned Names and Numbers (ICANN). IANA is currently a department of ICANN. The question is: can the net community really govern some of its core infrastructure and how much support does it need from governments for that, if at all? It was only on March 15 this year that the National Telecommunications and Information Administration (NTIA), an agency of the US Department of Commerce, announced that the US administration would withdraw from its oversight role of IANA. Yet, over the coming three weeks, the Réseaux IP Européens (RIPE, French for European IP Networks), the Internet Engineering Task Force (IETF) and the Cross Community Working Group of ICANN (CWG) have to discuss their proposals for the future IANA and ICANN's preparedness to continue being the IANA operator.

IANA – A LIST OF MANAGEMENT JOBS

The IANA operates a central database for protocol numbers (e.g. http is port 80); the central IP address pool to ensure unique allocation of numbers throughout the five Regional Internet Registries service regions; the central root zone of the domain name system, again to ensure uniqueness and universality for old (.com) and new (.hiv) zones. These jobs are combined by the mere fact that they were performed by the same US academic, Jonathan B. Postel for years. Two years after his passing (2000) the now discussed IANA functions contract between the NTIA and the then just established ICANN came about. Despite the rather technical nature of the functions performed since the commercial take-off of the Internet, the US role as a contractor and the NTIA's task in controlling root zone changes have resulted in fierce diplomatic debates. In theory the public servants at NTIA could block a zone from going into the root, or could make changes to take a zone away from an operator they think illegitimate or hostile to US interests. Practically, the US administration has stayed clear of such direct intervention. For detailed information on the history and contracts, see papers by ICANN's Security and Stability Advisory Committee.[1]

COMPLEX BAG OF ISSUES

What makes this process so complex is that IANA is a list of jobs – including IP address allocation in a central pool, management of the core domain name root zone, attending the database for protocol numbers. The transition looks much easier for the number and protocol people (at the RIRs and the IETF). Clearly, the IANA tasks for numbers and protocols did practically not involve the United States government oversight, fights about service levels have been fought over ICANN's first decade and seem to be settled. The IETF and the Regional Internet Registries therefore do not see a need for change.

Having a draft proposal out already, the IETF has progressed the most. While discussion was not complete, IETF Chair Jari Arkko, said in Los Angeles, "the IETF community was quite clear that the transition needs to stay within the current operational model which in our mind means no change to the roles of organisations and no new organisations are needed". The RIPE Network Coordination Centre (RIPE NCC) on the other hand has asked for a mandate to complete the proposal and to submit it to the IANA Stewardship Transition Coordination Group (ICG) before 15 January 2015.

The blanket mandate has already stirred some discussion, starting with an ex-official of the International Telecommunication Union, Richard Hill, who asked how the community itself would be participating. Yet, given that RIPE also has to coordinate with its four sister regional address registries (RIRs) from Asia, North America, Latin America and Africa, time is running. The ICG received all proposals by 15 January and needs to stitch the three proposals (names, numbers, protocols) together before June 2015.

DOMAIN NAMES AS THE HOT POTATO

Given the long list of issues that ICANN's Cross Community Working Group has to address and the challenge to fill the oversight gaps opened by the transition, oversight for IP addressing and protocol resources looks a lot easier to solve. While IP address allocation has made it to intergovernmental discussions at the International Telecommunication Union time and again (and has just again been discussed at the ITU Plenipotentiary in Busan) – the hot potato has always been DNS root zone management. Should one government even in theory be able to directly control additions and deletions to the root zone and perhaps, more subtly, should it be able to prevent a name from going to the root by putting pressure on the IANA operator ICANN?

With the extensions of the DNS to hundreds of gTLDs and the growing importance governments attach to their country code's top level domains, more players have taken an

interest in management and policy development of the DNS. To address the concerns of registries and registrars, of managers of country code TLDs and also of governments and user organisations, a lot of stitching will be necessary before a names proposal can even go to the ICG on 15 January.

One question haunts the names group in particular, how can ICANN be held accountable and true to its current by-laws once the whip of the US administration is gone? Once IANA is gone, a future ICANN management could simply cancel the existing review procedures, warned Steve Del Bianco, Executive Director of NetChoice and de facto speaker of the US business sector. Redress and appeal procedures might be an issue too for those 'governed' by ICANN. The IANA transition, he said, "is our last best point of leverage to get the accountability we need for the ICANN of the future".

OVERSIGHT COUNCIL AND THE ROLE OF GOVERNMENTS

Several proposals on the accountability question have been made in Los Angeles circling around the idea of a community driven 'oversight body' that will hold the ICANN board to account and keep it from changing or expanding the ICANN mandate or breaking with its core values. Should the Oversight Council, or at least the Service Level Agreement Council, be inside or outside ICANN? This is one of the pressing questions under debate in the Cross Community Working Group which will meet mid November in Frankfurt to advance its draft proposal.

Many would have liked to avoid the debate on such a new body, especially when it comes to the fight around who should be given what role in the Oversight Council. The mere advisory role of governments, for example, has been criticised by governmental representatives many times. Even lobbying in favour of making governmental advice a practical veto at ICANN has been observed. Yet the mere notion of a governmental veto for governments or an oversight council of some sort are unpopular in the ICANN community. This could open a gap between the protocol, numbering and names communities, as Milton Mueller, the founder of the Internet Governance Project and member of the ICG, put it. Quoting Daniel Karrenberg, Chief Scientist of the RIPE NCC, Mueller continued, "What incentive would there be [for the protocols and numbers people] to agree to additional mechanisms designed specifically to address names issues? What if these are perceived to add unnecessary complications for the working mechanisms in the protocols/numbers area?" Adding further, "trying to keep them all together in the same organization as ICANN's policy process may be a threat to the stability of the former (protocols) and a mettlesome constraint on the solution set of the latter (names)".

ZOOMING OUT TO TAKE A HARD LOOK AT ICANN

Several governments who gathered at the ICANN LA meeting in mid-October underlined that a mere handover of the IANA functions to ICANN would overlook deeper problems of the self-governing structures of the Internet. Brazil in the first place warned not to overlook the issue that the ICANN is bound to a single jurisdiction and proposed discussion of a new status for the organisation as an international organisation.

The Brazilian representative to ICANN's Governmental Advisory Committee argued: "If we limit the transition to the mere compliance with the conditions that were spelled out by NTIA for the transition, we forget about the other elements that form the perspective of government" and it would be a "lost opportunity" to create an ICANN "that would be seen more legitimate for not being attached to one single jurisdiction but being responsible to the multi-stakeholder community".

One can be sure that there will be no consensus for such far-reaching ideas in the transition proposals to be tabled over the next weeks. It is even doubtful that they will succeed in slowing down the tightly scheduled discussion rounds. This being said, the far reaching reform ideas are not likely to go away anytime soon. ◆

FOOTNOTE

1 http://goo.gl/yNolM1

THIS IS A NEWS POST BY **MONIKA ERMERT**

Monika Ermert is a freelance journalist regularly publishing for Internet Policy Review, Heise, the Washington Internet Daily and Intellectual Property Watch. She covers scientific topics, media politics, technology and the standardisation of the Internet while analysing attempts to bring the Internet under state control.

INTERNET POLICY REVIEW

The Internet Policy Review is a news and analysis service about Internet regulation in Europe. It is a publication of the Alexander von Humboldt Institute for Internet and Society. The Internet Policy Review tracks public regulatory changes as well as private policy developments which are expected to have long lasting impacts on European societies. Its expertise resides in its clear and independent analysis of inter-European digital policy changes.

EVERYTHING
IS
CONNECTED

NEW MODES OF BEING CONNECTED: THE DIGITAL SOCIETY, A PRODUCTIVE ALGORITHM

An interview with Florian Süssenguth, Fellow Researcher at the HIIG in 2014. Florian is a PHD candidate at the Institute of Sociology at Ludwig-Maximilians-Universität, München. In his doctoral thesis he explores the German discourse on Netzpolitik (net politics and net policy). The interview was conducted by Jeanette Hofmann.

Jeanette Hofmann: In 2014 we saw a growing number of references to the digital society. What does this new label refer to?

Florian Süssenguth: It refers to two entwined questions: How do digital media change the structure of society and how can we make sense of these shifts? The label of digital society is a tool that can aid us in our attempts to chart a course through social phenomena once familiar but now turned terra incognita due to digitisation. As scientists we have to avoid the trap of confusing the map with the territory, though. The relevant question is not whether our society is truly a digital society but what comes into focus when this conceptual lens is used and more importantly, what remains hidden in blind spots? Comparing the digital society label to others – web 2.0, industry 4.0, big data, just to name a few – is about empirically reconstructing their very real effects. The question then is, how do the implicit assumptions contained in the various labels affect politics, organisations or the public sphere? It is an approach, which is more in line with Foucault's notion of positivism than Popper's.

JH: What characterises the digital society and what do you see as major differences to the analogue society (should that be its predecessor)?

FS: I think it is indeed looking for the opposite of a popular term that can teach us quite a lot about it. In the same way that the web 2.0 retroactively invented the web 1.0 to make sense, the analogue society is twinned with the digital society. This is why, as social scientists, we should ask what practical purpose the distinction between the digital and the analogue society serves today instead of trying to identify the precise point in history when one changed into the other. We then see that talking about the analogue society enables imagining an unambiguous past, undisturbed by digital media, which constitutes a mode of reflection in an unclear digital present. Paradoxically the image of the analogue society, from this perspective, is not about the past itself, but part of strategies aiming to manage the future in times of crumbling routines.

JH: The spread of digitisation seems to be accompanied by pervasive surveillance, be it by governments or by corporations. Is the connection between digitisation, control and monitoring an inevitable part of the digital society or can you imagine a different future that would respect traditional principles of autonomy and privacy?

FS: We definitely see that some ways of maintaining the boundaries between social spheres lose their effectiveness in times of ubiquitous digital media. Being separated by distance no longer prevents us from affecting each other. Sensors, digital storage and means to analyse data begin to transform the form of social memory. At the same time, the metaphor of the network, which has gained much prominence within the social sciences and in public discussion, contains one aspect that is often overlooked: a network is not about connecting everything to everything. Its shape is determined by its holes instead, the possible but not formed connections. Individuality, autonomy and privacy are all concepts that do not imply being entirely disconnected. We have to understand autonomy and privacy as social forms, which regulate how persons are included in society. They themselves are products of historical constellations. Thus, privacy is neither an unchangeable part of human nature nor predetermined by the media. So, while I doubt that traditional forms of autonomy and privacy will survive unchanged in a digital society, they are a valuable resource in the search for new modes of managing being connected in a way that carries positive connotations such as solidarity, community or appreciation.

JH: Speaking of modes of being connected, are we, the people, shaping the transformations associated with the digital society and, do you expect digital societies to preserve the idea of democratic self-determination?

FS: It is my privilege as a scientist to have the freedom to answer the first question with anything but a resounding yes. For a politician this would be incommensurably more problematic to do. The tragedy of the political system is that it can only conceive of itself as being the centre of society. Theories of modern society reveal that it has no centre, though. It is better understood as a heterogeneous network of different modes of order; in other words the political system presents itself as the keystone that integrates society although it actually is not anymore integrated via the consensus of the people. My research into net politics shows that the counterfactual self-description of the political system is able to adapt itself to a digital society so far. Politicians and political organisations successfully experiment with forms of participation and representation through digital tools. The rise of the Pirate Party, a result of

the widespread criticism of the digital incompetence of politicians, shows how hard it is even for critics to escape the gravitational pull of the democratic logic. This logic assumes that societies govern themselves through consensus or majority voting. Getting back to the question as to whether I think we, the people, shape the digital society? To quote the Simpsons: "Short answer, 'yes' with an 'if'. Long answer, 'no' with a 'but'".

JH: Do you expect a shift in the power balance between governments, citizens and corporations?

FS: There will definitely be shifts as the playing field itself is changing. We will have to take a very close look at the interplay between the increased mobility of data due to its commodification and the specific forms of data hunger, which arise when established social practices ranging from private life to highly specialised fields are confronted with the possibilities offered by digital media. Securitisation and neoliberalism are prime frameworks for investigating potential digital power shifts. Yet, we should also take a closer look at the sciences' desire for more data or the potential of, for instance, location-based services to turn romantic love and family life into a digital panopticism.

JH: How should social scientists investigate the pending digital society?

FS: No phenomenon we study exists in a vacuum. However, this does not mean that everything is connected to everything else. Against this background, a theoretical and methodological framework is needed, which is able to trace how digital media transform the modes of connection and disconnection between economic, legal, political and other contexts. To pursue this aim, we have to conceive of the digital society as a productive algorithm, which allows us to innovatively recombine the data we generate in our studies. Doing so reveals forms of managing boundaries and drawing distinctions, which are opaque to the social actors themselves. Our contribution to solving the challenges of digitisation then does neither consist in the flat retelling of our observations nor in unmasking strategies of dealing with the digital revolution as inadequate. Our task rather consists in making visible how many different and often mutually exclusive ways of creatively dealing with the uncertainty of the digital future exists and in explaining how it is possible that they all coexist within the same society.

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

Without a doubt, a highlight of the activities of the Network of Centers in 2014 was the handing over of a 3D printed crown from the HIIG to Juan Carlos de Martin from the NEXA centre, as a symbol of the Network of Internet Research Centres (NoC) management transition to the NEXA centre. The crown being a reference to a strange encounter – the details will be kept secret – where Juan Carlos had been introduced as "Juan Carlos di Turino" by the president of a university, very much to the irritation of the true republican J.C. but very much to the amusement of those in the audience envisaging the emperor Juan Carlos I. The crown is, however, well earned and we look forward to the future cooperation under his leadership.

The HIIG had the privilege to guide the NoC over two years and what the network has achieved in the last month in particular is significant. There are two projects that prove the value of the network as a facilitator for the centres, making things possible that a single centre alone could not accomplish. This is especially true for comparative research. The first 'show case' deals with Internet governance: In a joint research effort on behalf of ICANN a set of case studies have been drafted and a synthesis has been elaborated on to inform policy makers about ideas that might be helpful in creating a governance structure should the US government be removed from its overseer's role. The other set of case studies deals with the various concepts for intermediary governance like notice-and-takedown procedures all over the world.

Furthermore the NoC has started a series of regional workshops starting in Santiago and followed up in Delhi about privacy issues, a topic where cultural context matters and therefore the international spread of the network, will prove to be especially helpful. Thus the first phase of the networks' activities has been crowned by some tangible results.

__ WOLFGANG SCHULZ

EVENTS OF THE NETWORK OF CENTERS 2014

SYMPOSIUM: INTERNET AND HUMAN RIGHTS IN INDIA

17 January 2014 | Hamburg, Germany

Hosted by the Centre for Communication Governance at National Law University Delhi in collaboration with the UNESCO Chair on Freedom of Communication and Information at the University of Hamburg, the Alexander von Humboldt Institute for Internet and Society (HIIG) and the Hans Bredow Institute

WORKSHOP: BRAZIL-GERMANY MEETING ON INTERNET GOVERNANCE

22 April 2014 | São Paulo, Brazil

Hosted by the Rio Institute for Technology (ITS) in collaboration with the Global Public Policy Institute (GPPi), in the run-up to the NETmundial meeting on Internet Governance

2014

ACADEMIC ROUNDTABLE: MULTISTAKEHOLDER INTERNET GOVERNANCE MODELS, MECHANISMS, AND ISSUES

25 – 26 April 2014 | São Paulo, Brazil

Hosted by the Center for Technology and Society of FGV Law School Rio de Janeiro (CTS/FGV) and the Research Group on Law and Innovation of FGV Law School São Paulo, immediately following NETmundial

WORKING MEETING: MOVING TOWARDS A COLLABORATIVE INTERNET GOVERNANCE ECOSYSTEM: CONTRIBUTIONS BY THE ACADEMIC COMMUNITY AND NEXT STEPS

22 May 2014 | Istanbul, Turkey

Hosted by the ICT Law Institute at Bilgi University, Istanbul

SYMPOSIUM: THE EVOLUTION OF THE INTERNET GOVERNANCE ECOSYSTEM

1 – 2 October 2014 | Turin, Italy

Hosted by the Nexa Center for Internet & Society, Politecnico di Torino

WORKSHOP: ONLINE INTERMEDIARIES

7 – 8 August 2014 | Cambridge, MA, USA

Hosted by the Berkman Center for Internet & Society and the Radcliffe Institute for Advanced Studies, Harvard University

2015

WORKSHOP: PERSPECTIVES ON INTERNET GOVERNANCE AND RESEARCH (IGF ISTANBUL)

3 September 2014 | Istanbul, Turkey

Host country workshop, initiated by the ICT Law Institute at Bilgi University

SYMPOSIUM: INTERNATIONAL REGULATORY TRENDS ON PERSONAL DATA PROTECTION

14 Nov 2014 | Santiago de Chile, Chile

Hosted by the Center of Studies in Informatics Law, University of Chile's Law School

COLLABORATIVE RESEARCH PROJECTS OF THE NETWORK OF CENTERS

COLLABORATIVE RESEARCH PROJECT: ONLINE INTERMEDIARIES

The Network's Online Intermediaries project is a policy-oriented research initiative aimed at examining the rapidly changing landscape of online intermediary governance at the intersection of law, technology, norms, and markets. In concert with other research projects, it seeks to develop criteria, comparative methods, and a shared data repository, and to compile insights and lessons learned across diverse communities of knowledge aimed at informing and improving Internet policy-making globally.

The first research output as part of the larger initiative consists of a case study series exploring online intermediary liability frameworks and issues in Brazil, the European Union, India, South Korea, the United States, Thailand, Turkey, and Vietnam, and a synthesis paper that seeks to distil key observations and provide a high-level analysis of some of the structural elements that characterise varying governance frameworks, with a focus on intermediary liability regimes and their evolution. This research builds upon a series of in-person working meetings, including a workshop hosted by the Radcliffe Institute for Advanced Study at Harvard University, where the draft country reports and key elements of the synthesis were discussed. Throughout the process, learning calls supported the sharing of research and methods among the collaborators.

Outcome: 8 case studies and a synthesis paper, as well as the documentation of the research project on the participatory website noc.publixphere.net, where interested parties are invited to comment the case studies and synthesis paper.

Launch of research results on 18 February 2015.

COLLABORATIVE RESEARCH PROJECT: INTERNET GOVERNANCE

The research effort on Internet governance documented here is a globally coordinated, independent academic research pilot project by the Global Network of Internet and Society Research Centers (NoC). Facilitated by the Berkman Center for Internet & Society at Harvard University, this study examines existing multistakeholder governance groups with the goal of informing the future evolution of the Internet governance ecosystem. Building upon the NETmundial Principles and Roadmap, it contributes to current policy debates at the international level, including the Internet Governance Forum, the NETmundial Initiative, and other organisations and efforts.

Internet governance is an increasingly complex concept that operates at multiple levels and in different dimensions, making it necessary to have a better understanding of both how multistakeholder governance groups operate and how they best achieve their goals. With this need in mind, at a point where the future of Internet governance is being re-envisioned, colleagues from several NoC institutions around the world have written twelve case studies examining a geographically and topically diverse set of local, national, and international governance models, components, and mechanisms from within and outside of the sphere of Internet governance. Key findings from these cases are summarized in a synthesis paper, which aims to deepen our understanding of the formation, operation, and critical success factors of governance groups and even challenge conventional thinking.

The research effort is grounded in a diversity of global perspectives and collaborative research techniques. Adhering to objective and independent academic standards, it aspires to be useful, actionable, and timely for policymakers and stakeholders. More broadly, the Network of Centers seeks to contribute to a more generalised vision and longer-term strategy for academia regarding its roles in research, facilitation and convening, and education in and communication about the Internet age.

Outcome: 12 case studies and a synthesis paper, as well as the documentation of the research project on the participatory website noc.publixphere.net, where interested parties are invited to comment the case studies and synthesis paper.

Launch of the research project on 16 January, 2014.

KLAUSUREN

Our quarterly conferences (*Klausurtagungen*) are two-day events that bring together the entire institute. It is the perfect opportunity to meet some of the people who you don't work with closely on a day-to-day basis and get an update on their research. Apart from the news about the four research departments, the conferences also serve as a forum for in-depth workshops about specific research questions. These sessions either focus on an individual research project or allow us to discuss our research in an interdisciplinary way.

THE HIIG OFFICE AT BEBELPLATZ

EDINA HARBINJA

Virtual worlds players – consumers or citizens?

INTRODUCTION

The concept of virtual worlds (VWs) predates the emergence of the Internet. Many authors report that the development of VWs has started with the text-based, offline role playing games, created on the basis of the different works of fiction, such as Tolkien's books and ideas of world building (Lastowka & Hunter, 2006, pp. 17 – 18; Erlank, 2012, pp. 22 – 23). The first text-based interactive computer game appeared in 1970, The Colossal Cave Adventure (Lastowka & Hunter, 2004, p. 17), with real-time interactive computer games called MUDs (Multi-User Dungeon) appearing by the end of the 1970s. These are first VWs. One early example of a MUD is MUD1, created by Richard Bartle and Roy Trubshaw in 1979, at Essex University. The most famous game in this group (text-based VWs) was LambdaMOO, created by Pavel Curtis in 1990 (Lastowka & Hunter, 2004, p. 20; Dibbell, 1998; Rex, n.d.).

Virtual worlds have continued to be a fascinating area for academic exploration. The scholarship analysing the social, economic, technological and legal aspects started in the late 1990s, focusing on the text-based VWs (Bartle, 1996). This continued throughout the 2000s, discussing visually represented VWs and MMOPGs (massively multiplayer online role-playing games). The focus of the early literature was mainly on technical, philosophical and governance issues of MUDs. More substantive legal discussion started at the beginning of the 21st century, with seminal works on private law aspects of VWs (property and contracts). This academic analysis predominantly tackled the following issues: economies and taxation (Castronova, 2003; Lastowka & Hunter, 2004), governance of VWs (Balkin, 2004; Mayer-Schoenberger & Crowley, 2006; Lastowka & Hunter, 2004), property and IP in VWs (Cifrino, 2014; Erlank, 2012; Fairfield, 2005; Fairfield, 2007; Jankowich, 2006; Lastowka & Hunter, 2004; Reynolds, 2003), contracts and consumer protection (Mayer-Schoenberger & Crowley, 2006; Jankowich, 2006; Riley, 2009); virtual crime (e.g. Lastowka & Hunter, 2004; Lodder, 2013). This paper revisits the literature, notwithstanding the current character of VWs. It focuses on UK and EU policy issues, occasionally referring to the US for comparative purposes. The comparison is significant as both the majority of Western VWs case law originates from the US, and most commercially successful VW platforms are based there.

The article does not discuss the widely analysed concept of property in virtual worlds (virtual property). Rather, recognising the phenomenon of constitutionalisation of VWs, this paper argues for a more nuanced approach towards the recognition of in-world interests of users. It suggests that the EU and UK regulators should aim to create policy and legislative solutions, which would enable VWs users/citizens to take more control over their virtual assets and valuable VW accounts.

CONCEPTUALISATION OF VIRTUAL WORLDS

From an etymological perspective, VWs could be defined as states of human existence, which do not exist physically, are not real, but do appear to be real from the point of view of the programme or the user (The Oxford English Dictionary, 2013). From this definition, we could extract the most important features that define contemporary VWs as follows: computer – moderated (users participate in VWs using computer and the Internet); persistence (in the case of VWs, this element is relative and depends on the viability of a particular business model); environmental attributes (immersive and persuasive worlds, mimicking real world environment and physicality); interactivity (players interact with each other, e.g. participating in World of Warcraft quests); participation of multiple individuals (sometimes even millions, see data cited further in the article) (Erlank, 2012 pp. 47 – 57; Bell, 2008).

Developers use different business models for their VWs. Some VWs are closed, used for military or business simulations. Others are open, commercial worlds, where users can join for free, pay a monthly fee (like World of Warcraft), or operate on the freemium basis (like Second Life), where basic services are free, but value added services have a cost (see Fairfield, 2009 p. 53; Riley, 2009, p. 890).

The umbrella term for VWs is MMOPGs (the term widely used in the scholarship cited above, in addition to the versions such as MMOs, MMOGs), although the latter can be divided on the basis of their player community and structure: game worlds or social worlds. In game VWs (massively multiplayer online role-playing games – MMORPGs), players adopt a specific role and compete to achieve certain predefined goals (e.g. World of Warcraft, Eve Online). In the social or unstructured worlds, the goals are less strictly defined, and the emphasis is on social interaction with other players and with the environment (e.g. Second Life, IMVU). These VWs are not games per se, but are better considered platforms for social interaction, or so called "mirror worlds" (Kzero, 2014). The third kind of VWs is kids' worlds, where children are the targeted player demographic (e.g. Club Penguin) (Lastowka, 2010, p. 58).

We can also distinguish VWs by the technology employed to provide the user access to the world, for instance: client-based (e.g. World of Warcraft), and those where the players can join online (e.g. Second Life). Some games, including certain VWs (e.g. The Lord of the Rings Online, Dungeons & Dragons Online, Everquest II, Diablo et al.) can also be accessed via intermediaries. The most prominent is a platform called Steam (Steam, 2013), "an entertainment platform", which distributes computer games and other software, from both independent and established software companies. It is also a communication, social networking of a sort and multiplayer platform, enabling a broader range of interactions between players akin to social networks. The further evolution of VWs includes innovative interaction hardware (e.g. Oculus Rift), bringing even more reality to these worlds (Kzero, 2014).

This paper focuses on two case studies: World of Warcraft and Second Life. The reason for choosing the US based VWs is that most of the successful Western VWs are hosted in the US (Edwards, 2011), contractual choice of law provisions ordinarily use US law, and the majority of common law cases have been resolved there (Fairfield, 2009, p. 430). Also, these examples are chosen due to their domination on the market, their large user base, their societal impact and 'cultural footprint' (Quinn, 2010, p. 760). Second Life is currently perceived as declining in popularity, but it is still worth mentioning as most of the existing case law involves this virtual world. Sporadic references might be made to other VWs and platforms, but the main analysis is based on these two virtual worlds.

For the purpose of this discussion, the term virtual assets (VAs) will be used to describe any item, object or asset found in VWs that is used or created by the players (e.g. avatar, weapon, land, house, clothes, furniture, and anything else that could be found in different VWs).

MAIN FEATURES OF VIRTUAL WORLDS' END USER LICENCE AGREEMENTS

Player obligations and rights, such as the allocation of ownership over virtual assets, intellectual property and different other rights in VWs are established through contracts between the players and the providers. VW contracts come in the form of click wrap licenses (End User Licence Agreements – EULAs; Terms of Service – ToS; rules of conduct and; different other policies) and the impact of these contracts are widely disputed. They often leave little or no freedom for the user and no other real choice apart from clicking 'I agree' (Blizzard, 2014) or declining the contract, therefore refusing to take part in the game (Humphreys and de Zwart, 2012; de Zwart, 2010; Erlank, 2012, p. 99; Pistorius, 2004; Lemley, 2006). Usually, the game developers claim all the property and IP rights (Jankowich, 2006) associated with a VW. This, as seen further, is currently the most common model (Humphreys and de Zwart, 2012; Jankowich, 2006).

Blizzard, the World of Warcraft's developer, expressly excludes any property rights of users in assets created or traded in the game, as well as forbidding transfers of accounts (Blizzard, 2014, s. 4 – 5). There are certain MMOPGs that permit users to retain IP rights in their creations (Linden Lab, 2003). Second Life was the best known VW having used such a model (Vacca, 2008, p. 46). Linden Labs, developer of the virtual world Second Life, had promised to give users relatively extensive rights over content created by users therein (Linden Lab, 2010, title 7). However, these rights appear rather illusory, as Linden limits them to the game and refuses any liability and compensation in the case of damage or loss of this property (Erlank, 2012, p. 201). Nevertheless, by the way of insisting to regulate and limit virtual property, the developer seems to implicitly recognise the existence of the user interests in their VAs (Erlank, 2012, p. 112).

Since the contractual status of VAs in World of Warcraft is rather clear as noted above, it is interesting to look at Second Life's alleged liberal contractual provisions. Second Life appears to promise to grant and preserve a player's ownership of their virtual creations (Linden Lab, 2003). The current ToS grants users intellectual property rights in their creations, if any. However, it denies property rights in the in-game virtual currency, i.e., 'Linden dollars' (Linden Lab, 2014). Linden also denies any property rights in land that users can purchase in Second Life. The land represents a limited licence granted by Linden, and not a real property right (Linden Lab, 2014, s. 4.8.), and Linden disclaims any liability for modification, damages, loss of land (Linden Lab, 2014, part 9; Blizzard, 2014 part XVII). The motive behind this change in Linden's terms and outlook on player's ownership seems to be the case of Bragg, discussed later. Linden appears to have realised the risks the recognition of virtual property might create (Evans et al, Plaintiffs, v. Linden Research, Inc. et al, 2013).

Further, another pertinent issue is that the developers retain the right to unilaterally change or terminate the contract at any time (Linden lab, 2014, part 5; Blizzard, 2014, part XV). Conversely, they do grant themselves a non-exclusive licence in players' creations. Linden Lab, for example, has recently widened Second Life EULA in order to retain unlimited and irrevocable rights to use and exploit users' creations. This move left many players of Second Life embittered, wanting to leave this VW (Korolov, 2013).

BRAGG V. LINDEN RESEARCH

The most famous US virtual worlds court case is Bragg v. Linden Research, Inc. (2007). Marc Bragg sued Linden Research after they expelled him from the online community and reclaimed his virtual assets, confiscating his VAs of roughly $2,000 in real-world money (Bragg v. Linden Research, Inc., 2007, p. 611), claiming that Bragg had violated their ToS by improperly buying the land at an auction. Second Life moved to compel arbitration according to the ToS. Bragg argued that the contractual terms between Bragg and Second Life were unconscionable because the agreement assumed too much power and was unreasonably biased against the user. The court confirmed that the terms of service were unconscionable in relation to the arbitration clause and knocked down the mandatory arbitration clause. The court also concluded that the terms left the plaintiff with no effective remedy (Hetcher, 2008, p. 836). The property claim was initially raised by Bragg, who had asserted that his in-game assets were in fact his property. The court, unfortunately, did not discuss this point, so virtual property still remains within the confines of academic debates.

More recently (2012), in Evans et al v. Linden Research, Inc. et al., the central issue was again fairness of the contract (provisions about suspension of accounts and users' compensation). A group of users claimed to own their VAs (Evans et al v. Linden Research, Inc. et al., 2012, Hr'g Tr. 27:12 – 28:11), and complained that they purchased virtual items and/or virtual land and later had their accounts unilaterally terminated or suspended by Linden. These

players were not compensated for the value of the virtual land, items, and/or currency in their accounts. In addition, the plaintiffs claimed that Linden made false representations about ownership of virtual land and virtual items, and wrongfully confiscated these items from the class members they sought to represent (Evans et al v. Linden Research, Inc. et al., 2012, Hr'g Tr. 27:12 – 28:11). Linden disputed the claimed ownership, recognising only copyright in users' creations (Evans et al v. Linden Research, Inc. et al., 2012, Hr'g Tr. 37:7 – 10; 39:17 – 24; 53:15 – 24). Again, there was no decision with respect to ownership. The case was settled (Evans et al v. Linden Research, Inc. et al., 2012). It could be argued that this example illustrates Linden's attitude and concerns over ownership in VWs. Rather than proceeding with the case, which could result in establishing some kind of property in virtual assets and thus endanger their EULA and their previous position, the developer prefers to compensate the users.

Even the 'liberal' providers and platforms seem to be replicating the EULAs presented above. For instance, Steam, a very successful platform (Wawro, 2014; Steam, 2014) is considered to be user-friendly, open-source to an extent and an alternative to the traditional business models. Valve, the owner of Steam, created a very restrictive EULA (Steam, 2014) for the content and games/VWs acquired via Steam, resembling very much those of the other VWs. Apart from the intellectual property rights (Steam, 2014, s. 6), ownership by the players of their creations and virtual money, contained in their wallets (Steam, 2014, part C), is limited, non-transferable, with a wide licence taken by the provider, Valve Corporation (Steam, 2014, s. 6A). According to the recently published research on VWs (Kzero, 2014), other popular VWs amongst adults – individuals with legal capacity, as required by the consumer protection and contracts law, thus subject to this analysis – are the social worlds IMVU (120 million users), Utherverse (22 million users), and sRepublic (6 million users). The analysis of these virtual worlds' ToSs and EULAs reveals, similar mirroring, if not copying, of the previous EULAs, with the same issues around licensing, property, IP and liability. Research suggests that the provisions of these EULAs conflict with the user community norms and behaviours, thus lacking legitimacy and potentially resulting in undesirable outcomes when it comes to their enforcement (Suzor, 2010; Suzor and Woodford, 2013). However, notwithstanding these important findings, this article focuses predominantly on the EULAs and their unfairness and does not provide a more detailed account of the relevant community norms.

CONSUMER PROTECTION AND VIRTUAL WORLDS

The above analysis could hint, as many other authors do, to the fact that the contracts are prima facie unfair (Jankowich, 2006, p. 50). The logical remedy for this would be challenging their unfairness or unconscionable provisions in courts using consumer protection laws (Riley, 2009, p. 907).

At the EU level, the Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights would potentially apply. This Directive, not yet implemented in the UK, encompasses the contracts regarding digital content, including games. Currently, at the UK level, The Unfair Terms in Consumer Contracts Regulations 1999 is also potentially applicable, if we recognise that when purchasing the licence to use software to enter the VW, users do act as consumers. According to this regulation, terms that would be potentially deemed as invalid include those limiting liability of the developer; those reserving the right to terminate or modify terms discretionary and without notice; arbitration clauses, etc. (The Unfair Terms in Consumer Contracts Regulations 1999, Sch. 2).

Both the UK and EU legislation address the issues such as provision of adequate information to consumers, rights of withdrawal, liability, delivery and passing of risk. This legislation, however, does not include the issues of property and IP rights, as the subject matter cannot be considered unfair and this is out of scope of this legislation (The Unfair Terms in Consumer Contracts Regulations 1999 S. 6. (2) or Rec. 51; Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights; the Treaty on the Functioning of the European Union 2012, art. 345). This law could apply to the parts of the contracts regulating sale of the licence for using software. VAs in the form of players' creations would not fall within the definition of goods and services found in the consumer protection laws, as they are not goods or services sold by the developers.

Alternatively, we could consider the UK Unfair Contract Terms Act 1977 (UCTA), which applies to all contracts, not just consumer contracts. Unfortunately, contracts dealing in any way with IP are beyond UCTA's scope, with it instead focusing on exclusion and limited contract clauses (Unfair Contract Terms Act 1977, Sch 1 s. 1). Similar, though much more limited protection can be found in California, mandated through Consumers Legal Remedies Act. This law prohibits inclusion of previously discussed unconscionable contract terms (California Civil Code §§ 1750 et seq.).

So far, VW contracts have not been challenged often in the UK and US courts. In the UK, there is no such case at the time of writing. In the US cases of Bragg and Evans, the courts did find certain provision of the contracts unfair (see previous section). Nevertheless, the courts' deliberations on the property rights have been quite accidental, in the context of discussing the main legal issues of the case. Therefore, we should not rely heavily on court cases to address the issue of a player's interest in VAs any time soon. Even if more cases do appear, the outcome, at least in the US might not be beneficial to the users (Randall, 2004; Quinn, 2010).

In principle, the question of creating and/or recognising proprietary rights and interests in VWs is not an issue that can be regulated by contracts, but instead is one of the general laws of property/IP. In addition, an attempt of applying consumer protection law to virtual

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THIS IS AN ARTICLE BY **EDINA HARBINJA**

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INTERNET POLICY REVIEW

The Internet Policy Review is a news and analysis service about Internet regulation in Europe. It is a publication of the Alexander von Humboldt Institute for Internet and Society. The Internet Policy Review tracks public regulatory changes as well as private policy developments which are expected to have long lasting impacts on European societies. Its expertise resides in its clear and independent analysis of inter-European digital policy changes.

worlds' EULAs and allocation of property therein is contrary to the views of many authors mentioned in the subsequent section. This is because, VWs are not just games, and their inhabitants are not just users or players, but instead can be considered active participants and citizens of the VWs, as indicated below.

CONSTITUTIONALISATION OF VIRTUAL WORLDS

Apart from allocating ownership over virtual assets, contracts have another important function: governance of the VWs.

Contracts are an effective and highly significant regulatory tool in VWs (Jankowich, 2006; Lastowka, 2010, Mayer-Schoenberger & Crowley, 2006; Balkin, 2004), giving usually only a 'take it or leave it' option to users, as mentioned in the section above (Jankowich, 2006, p. 6). Using mainly contracts, VW developers have 'omniscient and godlike' powers to control and regulate the behaviours and interests of players, turning them into their subjects (Erlank, 2012, pp. 75 – 76, 79; Jankowich, 2006). Jankowich coined a useful term for this regulation: 'EULAw', thereby characterising these agreements as "non-negotiated, infinitely modifiable, proprietor-friendly regulation" (Jankowich, 2006, p. 9). This is not a new phenomenon, though, as we have a similar situation for all standard-terms contracts. What makes these contracts different is the substance they attempt to regulate in their provision.

The rules of EULAs and ToS govern both legal and environmental aspects of VWs, such as etiquette, game rules, players' conflicts, in-game crimes, privacy policy, business policies, real world law of contracts, property, IP, dispute resolution (Jankowich, 2006, p. 10; Linden Lab, 2014). Contracts are, therefore, hybrid contract/property documents, granting the users, in some cases, limited property/IP rights in their creations. They also exceed the principle of privity of contracts (binding nature between the parties only) (Fairfield, 2009, p. 451), or in civil law terms, in personam nature (Fairfield, 2009, p. 429). Therefore, these contracts create pseudo-property, pseudo-torts, pseudo-criminal and pseudo-constitutional systems. Mayer-Schönberger and Crowley rather sensibly characterise this phenomenon as constitutionalisation of VWs (Mayer-Schoenberger & Crowley, 2006, pp. 1809 – 1810). Along the same line, Suzor notes the constitutional tensions in the regulation of VWs, arguing for the reconceptualisation and evaluation of this framework, applying the rule of law principles to the private law regulation by EULAs (Suzor, 2010).

The providers also have a very strong mechanism of enforcement, through code (software, architecture), by restricting access to the world ex post. They have the abilities to change the worlds in any way they wish, to change their landscape, design functionalities and player's abilities (Balkin, 2004, p. 2049). In addition, one of the most effective methods of enforcement for the breach of EULAs provision is expulsion. Here, users incur significant costs when forced to leave the world, both in social terms (social capital, friends, built reputation,

ties with one's avatar) and financial terms (monthly subscription fees and loss of all virtual property) (Mayer-Schoenberger & Crowley, 2006, pp. 1791 – 1792). They therefore rightly label VWs as "the most Lessigian of all spaces of online interaction" (Mayer-Schoenberger & Crowley, 2006, p. 1791; Lessig, 2006).

Constitutionalisation could also be perceived as a consequence of VWs being 'places' on their own, with their own social interactions and culture, mimicking the real-world (Lastowka, 2010, p. 10, 46, 190). The social significance and features of VWs have been studied by scholars from different disciplines, who embarked on the task of explaining different social phenomena within VWs. Thus, for instance, VWs are places with rich cultures, with many players engaging in creation and art (e.g. films, called 'machinimas', created in the VWs and shared elsewhere later, e.g. on YouTube, see Lastowka, 2010, p. 190). VWs are also communities with an impressive social cohesion (see an empirical longitudinal study that tested social ties within the Everquest II, Shen, Monge & Williams, 2011). They are used to explore and develop language skills (e.g. Tactical Language Project, developed at the University of Southern California Center for Research in Technology for Education, have taught language using virtual environments, see Fairfield, 2009, p. 1061); to engage in political activities (e.g. Second Life internal elections, or 2008 Hillary Clinton's Second Life campaign, see Wagner, 2004; Holloway, 2007; Crikey, 2007), for education (many notable education institutions, such as Harvard University or Yale, have had their Second Life profiles, as VWs are used to explore how users learn from play, see Oliver & Carr, 2009), military (e.g. virtual environment has designed a Virtual Baghdad project on commission for the Army, see Fairfield, 2009, p. 1060; Wertheim, 2004), medical (e.g. therapists use them to treat patients with Asperger's Syndrome, see Fairfield, 2009, p. 1059) and many other purposes.

The individual, social and economic characteristics of VW encourage many writers to claim that the worlds have "significance above and beyond their importance in the game context" (Chein, 2006, p. 1069). Therefore, as commentators observe "VWs are online places where games are usually played" (Lastowka, 2010, p. 119; Bartle, 2004). Some authors even suggest that players' avatars should have the rights online that correspond to human rights, since they are "the manifestation of actual people in an online medium" (Koster, 2000). VWs are qualitatively different from other kinds of games and real world social interaction, exactly by the unique interplay of their features, particularly due to the fact that these interactions happen in an environmentally peculiar, physical and 3D world (Erlank, 2012, pp. 51 – 52). Consequently, there is a much richer potential for creation in and building of VWs, in comparison with, for instance, social networks. The option and tools for creation are much more limited on social networks, stemming from their web-based interface and the lack of physicality. The ability to create using different tools and sharing these creations with a fellow user/player/citizen is one of the biggest motives for a player to participate in a certain VW (Lastowka, 2013). These features support the claim that further research is required on regulatory aspects of virtual worlds.

CONCLUSION

Clearly, the present forms of regulation of VWs through contracts and 'code' are not sustainable, due to its aforementioned arbitrary, unfair and ad hoc characteristics. As such, they are inadequate tools for fair regulation of both the worlds as a whole, and the underlying social relationships between players/users/citizens and providers (Jankowich, 2006; Erlank, 2012, Fairfield, 2009; Lastowka, 2010, etc.). With regulation of VWs, these quasi-constitutions are unsuitable and there is a need for more certainty and accountability in relation to the player interests. Recognising the features of VWs, their distinct character and place-like qualities, it is necessary to provide for a more balanced legal and regulatory regime to protect the VW citizens and their interests (Lastowka, 2010, p. 17). This paper argued that the consumer protection legislation cannot address these issues, as the interests such as property or intellectual property are beyond the scope of this regime. It is also suggested that the problem could be addressed through legislation/regulation that would mandate recognition of the users' rights, acknowledging the rights and interests of the developer as well, perhaps through the form of property/quasi-property rights. In this regard, there is a need for further research that would suggest some specific, nuanced regulatory and legal solutions, which would take a better account of the players' interest in virtual worlds. ◆

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URS KIND

How Love Steaks almost changed
the German film industry

If the industry magazine The Hollywood Reporter is writing about a German film-school movie, it is worth reading. This is especially true when it is described as "the first film of what could potentially become a new filmmaking movement – called Fogma, with a clear wink to Lars von Trier and Thomas Vinterberg's Dogme 95 manifesto that kicked of a renaissance in Danish cinema – Love Steaks combines improvisation in scenes with a planned overall narrative structure" (van Hoeij, 2014, March 28). Love Steaks, directed by Jakob Lass, was produced by the Konrad Wolf Film University in Babelsberg, Germany and narrates an uncommon love story between two employees in a Baltic Sea hotel, who rebel against the rules constraining their lives. The film won several national and international prizes and was nominated for the German Film Award in 2014.

However, the significance of Love Steaks goes beyond any awards or nominations it may receive. Above all, it gives us an opportunity to see how films are being distributed in the digital era. In the protected space of German film schools, a large number of films are being produced however only a few attract major attention. Due to funding from public institutions (*Filmförderung*) only a few receive attention beyond film critics. This dependence on public funding is not a unique feature of student films: it can be seen throughout the German film industry. In 2011, about 40% of all film production costs came from public funding (Goldhammer & Castendyk 2012, p. 109). The legal basis for public funding is the German Film Promotion Act (*Filmförderungsgesetz*) – which also describes the structure of the various regional and federal film boards.

This act also requires that publically funded films have to be screened in cinemas first before they can be sold on DVD, to pay TV or free TV broadcasters, and as video on demand. Because Love Steaks was solely financed by the film school itself, the filmmakers Ines Schiller, Golo Schultz and Jacob Lass were able to develop an innovative marketing concept called cine stream, which allows for parallel distribution in cinemas and via an online stream. The plan was to stream the movie on the cinema's own website for the same price as a theatre ticket for the duration of the film's run in that cinema. However, according to Martin Hagemann, film producer and mentoring professor at the Konrad Wolf Film University, the plan ultimately failed due to resistance from the film theatre association (AG Kino). Hagemann stated there was fear over potential loss of audience in the cinemas and the associated loss of revenue from food and drinks sales. "The one who streams buys his popcorn elsewhere" as he claims in an interview with the author of this article. The number of cinema attendees has indeed been declining in recent years. In 1999 about 141 million people went to cinemas in Germany, while by 2013 this number had decreased to 128 million (FFA, 2014). The reasons are complex. Revenues in the DVD market also went down from 1,750 million euros in 2004 to 1,140 million euros in 2013 (FFA, GfK,

2014, p.18). Only Blu-ray disks sales are still growing.

The biggest current growth potential is in the video-on-demand market. A recent study by Goldmedia consulting predicts a significant increase until 2018, especially in the S-VoD subscription market (Goldmedia, 2014).

These market changes are not a new phenomenon and subscription video on demand is already fairly common in the US Netflix produces award-winning series like House of Cards and Lilyhammer and the market entry of Netflix in Germany is expected this year. In his survey of the US market a few years ago, Thorsten Hennig-Thurau examined the consequences of parallel distribution in cinemas and via video on demand. Our results suggest that recent industry speculation about simultaneous channel releases called a death threat by theatre owners would indeed be devastating for movie theatres. However, such a change might be financially attractive to movie studios and DVD-retailers if executed in the US market, though externalities must be considered if the theatre channel were to be irreparably damaged (Hennig-Thurau, 2007, p. 79). The studios hope to increase their revenues while keeping their marketing costs constant. These results cannot be transferred directly to the German market because of different market structures and the different international potential of German and American movies. Such a development would require the willingness of movie theatre owners in Germany to modify their business model. Hagemann sees a lot of potential in the screening of live events like operas, premieres or soccer games which would give theatres a relevance and quality that could not be recreated at home, the watching of content in a group and on a big screen.

The inflexible and exclusive distribution windows for publicly funded movies were originally designed to generate revenues in a cascade manner. This model was created decades ago and is still used to this day. With the growing number of broadband connections it is possible for more and more households to watch movies online. According to the German technological industry association (BITKOM) 85% of German households have broadband Internet connections (BITKOM, 2014). The creation of the exclusive distribution windows can be explained according to Hennig-Thurau as follows: The existing model of distribution for movies with its blocking periods and passive users was created during the 1980s. Remember: it was developed as a reaction by the film studios to the rise of video tapes and video stores – it was the first time users were allowed to take a movie home (Hennig-Thurau, 2012, p. 18). It is evident that such times have changed by the fact that the European Union developed a programme (day and date release) to promote parallel VoD and cinema releases in 2012. Because the movies are still in production, we cannot definitively state whether these projects will be successful.

The British cinema chain Curzon Cinemas gives an example of how movies can be distributed in cinema and on VoD simultaneously. Although no exact numbers are available

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THIS IS AN ARTICLE BY **URS KIND**

This article was published on 14 April 2014 on the HIIG-Blog. Urs is a doctoral researcher at the Humboldt Institute for Internet and Society in the »dwerft« project researching the future of the film and TV industry.

»DWERFT«

The Humboldt Institute for Internet and Society is a member of the corporate alliance »dwerft«. Its goal is to develop new technologies for the film industry and make the acquired knowledge available on site. The research project resides at the world's oldest film location, Potsdam Babelsberg, against the backdrop of an increasing importance of IT technologies in the individual areas of film production and the concomitant challenge of only partially compatible data and metadata.

and this concept only seems to work with the support of EU's MEDIA program, it shows how the movie theatres may develop and innovate to survive market changes. Finally the distribution company that brought Love Steaks into cinemas is going to establish itself in the German market, although it is not a generic distribution company. Its main business was in the music sector, an industry that has learned to respond to dramatic market changes. ◆

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Update 20 January 2015: Regarding the distribution of Sony's The interview it can be seen, that the importance of online distribution emerges faster than expected, although it didn't happen purposely. (Stelter, 2015, January 6)

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LIES VAN ROESSEL & SARAH HERWEG

On imitation and innovation in the games sector: From Pong to Ridiculous Fishing

Imitation in computer games has been an issue since the medium's inception. Even the launch of the first commercially successful game, Pong, brought two developers into conflict. In 1972, console manufacturer Magnavox accused Atari of having stolen the idea and technology for electronic ping-pong on a television screen from Magnavox employee Ralph Baer (Kent, 2001, p. 46). This case did not make it to court, as Atari bought a licence to exploit Pong for many years to come. In turn, the enormous popularity of Pong caught the attention of competitors, and it turned out to be difficult to protect Pong as intellectual property. This spurred many Pong imitations: "No sooner had Pong become the hottest innovation in amusement machines than dozens of potential competitors began studying it. (...) Bushnell had entered into an industry in which success spawned imitation, and everybody considered Pong a success, with Pong machines earning $200 per week. There was no way to stop companies from copying it" (Kent, 2001, p 60).

Many similar cases followed. These involved developers and publishers accusing other developers or publishers of copying their work, and of infringing the original creator's copyright. For instance, in 1988, Data East sued developer Epyx for copying their game Karate Champ, and in 2009 Xio was incriminated for making a Tetris clone. Not all disputes made it to court. Recently, there have also been many cases of alleged cloning. Some of them have been covered by the media, such as Threes (Vollmer, 2014) and Flappy Bird (Phillips, 2014, February 14), but some of them are less well known, such as '... and then it rained' by Berlin-based indie studio Megagon Industries, who claim their game was cloned four times.

It's remarkable that some of the above mentioned developers have stood on both sides of the fence. For instance, Atari – after the Pong conflict – accused Amusement World of imitating their game Asteroids. Also, former plaintiff Data East was accused of copying Capcom's Streetfighter 2 (McArthur, 2013). In other words, it's not always the same companies that are the alleged cloners or original creators. In some cases, for example, with Tetris, the plaintiff won the case. In many other cases, however, the defendant was deemed right.

COPYRIGHT FOR GAMES?

This tendency to acquit defendants accused of copyright infringement, may have something to do with the nature of copyright and its problematic application to games. To understand why this is problematic, it is necessary to look at the nature of copyright a little more closely.

Copyright law distinguishes between idea and expression. A work benefits from copyright protection as soon as it is written down, recorded, painted, thus fixed in any tangible medium of expression. However, the idea behind the expression stays in the public domain and remains unprotected (Herweg, 2014). Even for works such as books, movies or music it might be quite hard to define where to draw the line between idea and expression. If one wants to write a book, for example, about a clever private detective who solves crimes by means of logical reasoning, this idea can freely be used. However, if this person lives in London, wears a long coat and is helped by a doctor friend, the idea increasingly turns into a work or expression, which could infringe the copyright of the Sherlock Holmes stories. In other words, there is a fine line between a (free) idea and a (protected) work or expression.

For games this is even more complicated. Games are composed of many separate elements, most of which can be protected by intellectual property law. For instance, the hardware may be protected by a patent, source code is protected as software, and one can apply for a trademark for game titles and character names. For the graphic and audio elements, there is copyright protection. However, a unique part of games, which cannot be found in other audiovisual media, is the underlying rule-based system.

In academia, there has been a big debate about what sets games apart from other media (e.g. Aarseth, 1997; Juul, 2001; Eskelinen, 2001). The question of the extent to which games are comparable to other audio-visual media has often been discussed. One of the conclusions was that games are by definition rule-based systems, with which the player always actively engages. This makes them inherently different from linear, non-interactive media such as films or books, in which the course of the story is fixed beforehand.

A simple example, taken from the game chess, might help to clarify this. What makes chess an interesting experience, is not the in-depth characters of the chess pieces or the adventures they experience, but the interactions of players with a precisely balanced, rule-based system (and with each other). Changing the visual style of the chess pieces, for example, would not alter this experience completely. In other words, what defines chess as a game, rather than the audiovisual or story elements that are found in other media, is its rule based system, i.e. the possible moves of the pieces, the actions that emerge from these affordances and the interplay between the actions.

Because players interact with the game system in a different manner each time they play, the experience is never fixed beforehand. Besides, the underlying rule system only truly reveals itself when one actually plays the game (one can hardly grasp it from pictures of the chess board). This makes the distinction that copyright draws between idea and (fixed) expression even more difficult. In the case of chess, an expression of the rules could be a

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THIS IS AN ARTICLE BY **LIES VAN ROESSEL AND SARAH HERWEG**

This article was published on 14 November 2014 on the HIIG-Blog. At the Humboldt Institute for Internet and Society Lies van Roessel is part of the research project Circulation of Cultural Goods. She focuses on copyrights in the game sector and how the sector is regulated with regard to imitation and innovation. Sarah Herweg worked as a student assistant at the HIIG until 2014.

CIRCULATION OF CULTURAL GOODS

Due to the predominating normative and legal approach in the current copyright debate, little research has been done on the actual effects of copyright law on processes of cultural production and innovation. The research project Circulation of Cultural Goods seeks to supplement the still nascent research with empirically grounded case studies. The theoretical background reflects recent governance approaches, emphasising the involvement of multiple actors and their use of both public and private means of regulation in processes of rule-makings. An explorative study focused on the creation and international trading of online TV formats. Another case study currently focuses on the games industry and how actors in the German games sector handle the fine line between innovation and imitation in their daily practice. Both sectors serve as cases in point, as they are not uniformly protected under copyright law due to their complex composition of often legally ambiguous components.

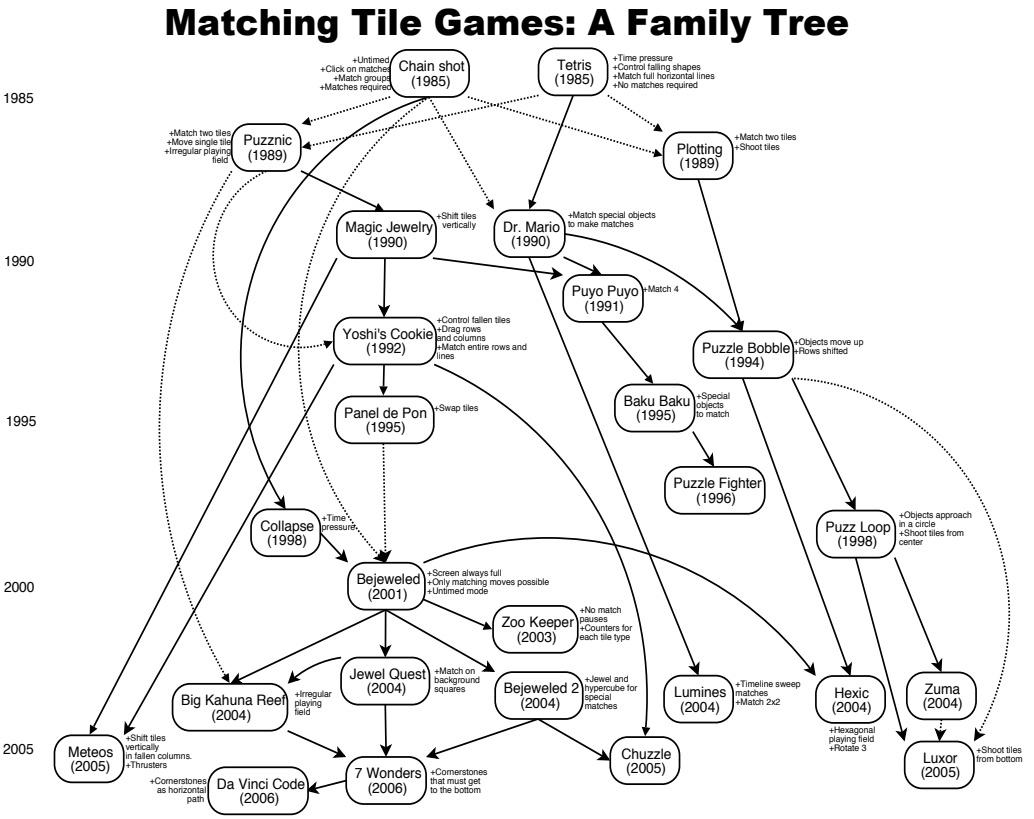

Figure 1: A family tree of matching tile games (Juul, 2010, p. 86)

written manual, but the rules could also be communicated orally or by a video. The 'idea' of chess rules can thus be expressed in many different ways. Moreover, in most current video games, the rules are usually not communicated explicitly upfront. Instead, in the process of playing, one gradually explores the rules of the game, as they are at first glance hidden behind the interface, graphics and audio. Some say this exploration and learning of the rules is actually one of the main pleasures of playing games (e.g. Koster, 2004).

Therefore, these rule-based systems could arguably be placed in the realm of (abstract) ideas rather than (concrete, fixed) expressions. Bruce Boyden describes it in his article *Games and other Uncopyrightable Systems* as follows: "Video games, despite being comprised of software, audiovisual elements, plots, graphics and characters, nevertheless have an uncopyrightable core: the actual play of the game" (Boyden, 2011).

In the above-mentioned disputes between developers, it was often difficult to unravel the separate elements – of which, as argued above, some are and some are not protected. It is even harder to understand how exactly these elements relate to and influence each other. When, for instance, the rule based system is copied, but another graphical style was chosen, it is hard to say whether there was any copyright infringement. This applies even more so when a judge has to determine the facts without having played the game – and thereby without having interacted with the system – herself.

IMITATION AS GENRE BUILDING

One could argue that, due to this lack of protection of the essential rule system, copyright law for games should be extended to include this. However, the dichotomy between idea and expression in copyright is there for a reason. If ideas and concepts were protected, it might become difficult for game genres to develop. Genres have typically emerged out of one or multiple existing ideas that have been taken further. In many cases, these ideas were the mechanics, i.e. the rudimentary building blocks of rule-based systems. For instance, there wouldn't be so many first person shooters out there, if it had been impossible to use Wolfenstein (or by earlier, less well-known examples) as an inspiration. Games scholar Jesper Juul depicts in his book *A Casual Revolution* an evolution of so-called matching tile games (see figure 1). In other words, a certain degree of imitation is always necessary to bring a medium forward. Building upon good ideas and fine-tuning them is a healthy way for a sector to maintain itself and grow.

Thus, extending copyright to apply to rule systems might have an undesired side effect – it actually could impede genre development.

SOCIAL NORMS AND CONVENTIONS

Taking a look at the legal side of this issue is interesting, however, law is not the only way to regulate things. There are also other ways a sector can structure itself. For instance, in some smaller industries it is shown that an unclear legal situation does not necessarily mean a lack of rules. Research into imitation and inspiration in the fields of stand-up comedy, cooking and magic, has yielded remarkable insights in this issue: when legislation does not suffice, informal norms and conventions are leveraged.

A similarity between the products made in these sectors and games, is that they rely on abstract ideas and concepts rather than on media expressions: jokes, recipes and tricks. Although in many respects these sectors are hardly comparable to the games sector, for instance, because they differ in size and are less dependent on digital technologies, it is nevertheless interesting to see how informal norms and conventions in these fields go beyond copyright or other legal intellectual property protection. In stand-up comedy, for example, some of the social norms are stricter than actual copyright legislation. The joke as an idea is protected within the community of comedians, which includes sanctions for someone who crosses the line and steals an idea. Moreover, the protection applies for an indefinite time, whereas copyright protection expires 70 years after the death of the author (Hofmann, Katzenbach & Münch, 2012). Thus, these rules are not prescribed by law, but are respected by the shared community of professionals within the field.

The question thus rises whether there are comparable social norms and conventions within game development. As the games industry has grown tremendously in the last decades, it might be difficult to find norms that apply to the whole sector. Nevertheless, the branch association IGDA has made an attempt – over ten years ago – to write guidelines for developers to deal with intellectual-property-related issues. In their white paper, the IGDA acknowledges that a certain degree of imitation is totally accepted within the games industry. However, they also address the moral standards, since the law does not always provide clear-cut answers: "One must avoid any outright stealing of other's work. It is not fair to them and you would likely find yourself in trouble eventually" (IGDA, 2003, p 38). Later on, they suggest: "Even if you were only inspired by someone else's work then consider giving them some credit" (IGDA, 2003, p 38). IGDA's formulation indicates a certain cautiousness. They don't firmly claim that you're breaking the law when as a developer you copy another developer's work, but they speak to the ethical responsibility of the developers.

A DISCOURSE ANALYSIS OF RIDICULOUS FISHING

An initial exploratory study on this topic was conducted by Sarah Herweg. She looked into the opinions and standpoints voiced by game developers about this issue, and looked for norms and conventions comparable to the ones existing among comedians and magicians. Do game developers have a common understanding of where to draw the line between acceptable inspiration and objectionable cloning? The findings show that in general game developers agree on the idea – expression dichotomy as it is made by copyright law: ideas in the form of core mechanics should remain freely available, whereas expressions are to be protected.

The research was done on Gamasutra, a popular game developers website, blog and forum. Two cases of alleged cloning were analysed: Ridiculous Fishing versus Ninja Fishing and The Sims Social versus The Ville. Here we will go further into the first case: the conflict between Dutch indie developer Vlambeer (Ridiculous Fishing) and US-based studio Gamenauts (Ninja Fishing). To better understand the case, here we will provide a short overview of the situation.

In 2010, Vlambeer released the game Radical Fishing, a flash game in which the player is a fisherman whose aim it is to catch as many fish as possible and then to shoot these fishes from the air. After releasing the browser game, Vlambeer continued working – under the radar – on a more advanced iOS version of the game. Then, in 2011, American developer Gamenauts released their game Ninja Fishing, for iOS. Ninja Fishing was heavily inspired by Radical Fishing. Although Gamenauts had chosen a different theme (ninjas with knives rather than fishermen with guns), the gameplay was similar to a great extent, as the rules were largely similar. When Vlambeer heard about the planned release of Ninja Fishing, they contacted Gamenauts and asked them to postpone the launch of the game until Vlambeer had released their own iOS version of the game, called Ridiculous Fishing. However, Gamenauts did not respond to this request. As Vlambeer was aware that chances of successful litigation were slim, they decided not to take any further action. In 2013, Vlambeer released Ridiculous Fishing and the game was an instant success. The game won the Apple Design Award in 2013.

DIVIDED OPINIONS

In her research, Herweg analysed and categorised seven articles and 247 comments on these articles from Gamasutra. She looked at the opinions of the commentators and how they justified the behaviour of one of the two parties. The opinions about the case were divided. Some condemned Gamenauts and accused them of cloning, whereas others asserted that Ninja Fishing had some innovative elements in comparison to Ridiculous

Fishing, and therefore was simply just inspired by it. Thus, members of the Gamasutra community tended to draw the fine line between imitation and inspiration in different places.

The readers on Gamasutra were very well aware of the difference between idea and expression in copyright legislation. Their comments reflected this dichotomy. Generally, the commentators agreed that anyone should be able to reuse core mechanics, whereas the wholesale copying of a game was seen as a no-go. The following comment illustrates this: "There is a certain granularity of copying that is acceptable: making a cartoon about a mouse is OK, but when you make him look exactly like the mouse, or give him the name Mickey Mouse, then that's infringement. I think my argument that copyright should extend to game mechanics draws the line of granularity at copying a whole work of game design. I am most definitely against patenting or copyrighting individual mechanics. The difference I am trying to draw here is that we still need a free marketplace of ideas from which new games can grow, but protecting innovators against wholesale ripoffs is a good thing." In other words, if a developer, besides the core rule system, also copies fine-tuned elements like the so-called balancing and the interface design, it gets problematic. For instance, one commentator argued: "My conscience won't allow me to say I innovated a game by changing one thing and changing the art. (...) It was the core mechanics... The fishing, the concept, the weapons, the power ups. The combination into one complete, fun experience. That, is what was copied FIRST. And one change, in my mind, doesn't cut it (pun intended)." This Gamasutra reader thus claims that Gamenauts went too far in copying Ridiculous Fishing. It's interesting that he does not refer to what is legally allowed, but rather speaks from what his conscience would allow him to do. This hints at the presence – at least for him – of other frames of reference than just the law.

While the previous comment deemed Vlambeer a victim, another commentator saw the situation differently: "Additionally, Ninja Fishing actually did include some innovations: the art style is different, and more mass market than the original Radical Fishing (which looks... ahem... shitty), and they included a slicing mechanic (which is lifted from Fruit Ninja and a number of other iOS games). These are small, but they are technically innovations." This person asserts that the small adjustments and the different visual style are enough to make Ninja Fishing into a new game. He refers to innovation as making small steps to improve or enrich things.

INFORMAL NORMS

In the process of examining the Gamasutra comments, Herweg also searched for possible social norms that could provide guidelines for developers how to deal with such

situations. Some comments offered suggestions for what Gamenauts could have done to ensure better conduct. For instance: "I think contacting the original inspiring developers is a good first step. At least asking them what they think, if they are planning something to move on." In addition to asking the original developer for permission (or at least informing them), an explicit reference could also help: "In the absence of copyright protection, what should game designers do? ALWAYS CREDIT YOUR GAME DESIGN INSPIRATIONS. Educate the public on the inspirations behind other games."

Thus, Gamenauts could have given credit to Vlambeer, in order to stay on the right side of the (ethical) line. The suggestions offered here by the commentators hint at possible norms existing in the games sector, which could help guide behaviour in the case of uncertainty around copyright protection of the work. However, not many commentators provided these kinds of guidelines. Moreover, suggesting them does not necessarily mean that this is common practice or even that they themselves would act in such a way.

CONCLUSION

In sum, Gamasutra readers agree about the dichotomy reflected by copyright legislation: ideas such as core mechanics should be freely available for anyone to use, whereas fully developed existing games should be protected from plagiarism. They also agreed that when only the audio-visual elements are changed and the entire rule based system stays the same (a so-called reskin), this is in general not accepted. Every game should contain at least an improvement or addition with respect to the original game, not only in graphics, but also with regard to the underlying rule system.

However, the case of Ridiculous Fishing also shows that it is difficult to know where exactly to draw the line between reusing core mechanics and a wholesale copy of the rule system. At what point has one added or adjusted enough for it not to be considered a clone anymore? This is a grey area in which disagreements can easily arise. When a developer finds herself in this grey zone, possible steps to take include asking the original developer for permission or explicitly referring to the source of inspiration.

In addition, it is hard to say whether the actual way developers handle this issue corresponds to the suggestions made by the Gamasutra readers. The people commenting are not Gamenauts or Vlambeer – and obviously in this case Gamenauts did not act according to the suggested guidelines. Hence, more research is needed to look at how developers are actually dealing with these situations: to what extent are these norms shared and acted upon? Moreover, the games industry is a huge sector, and chances are that different sub groups exist with different norms and conventions that are not necessarily shared among

the games industry as a whole. For instance, indie developers are often mentioned as a distinct group within the games sector, and their conventions may differ from those of other game developers.

The case study described here is an initial study as part of a larger project at the HIIG into imitation and innovation in the games sector. The current research compares different subgroups of the industry in terms of their conventions on imitation and inspiration. By interviewing developers, we hope to find out whether the guidelines suggested on Gamasutra are actually shared and acted upon. Considering the many recent conflicts around imitation, more knowledge about how this is regulated – within the law but also outside the legal realm – is helpful. ◆

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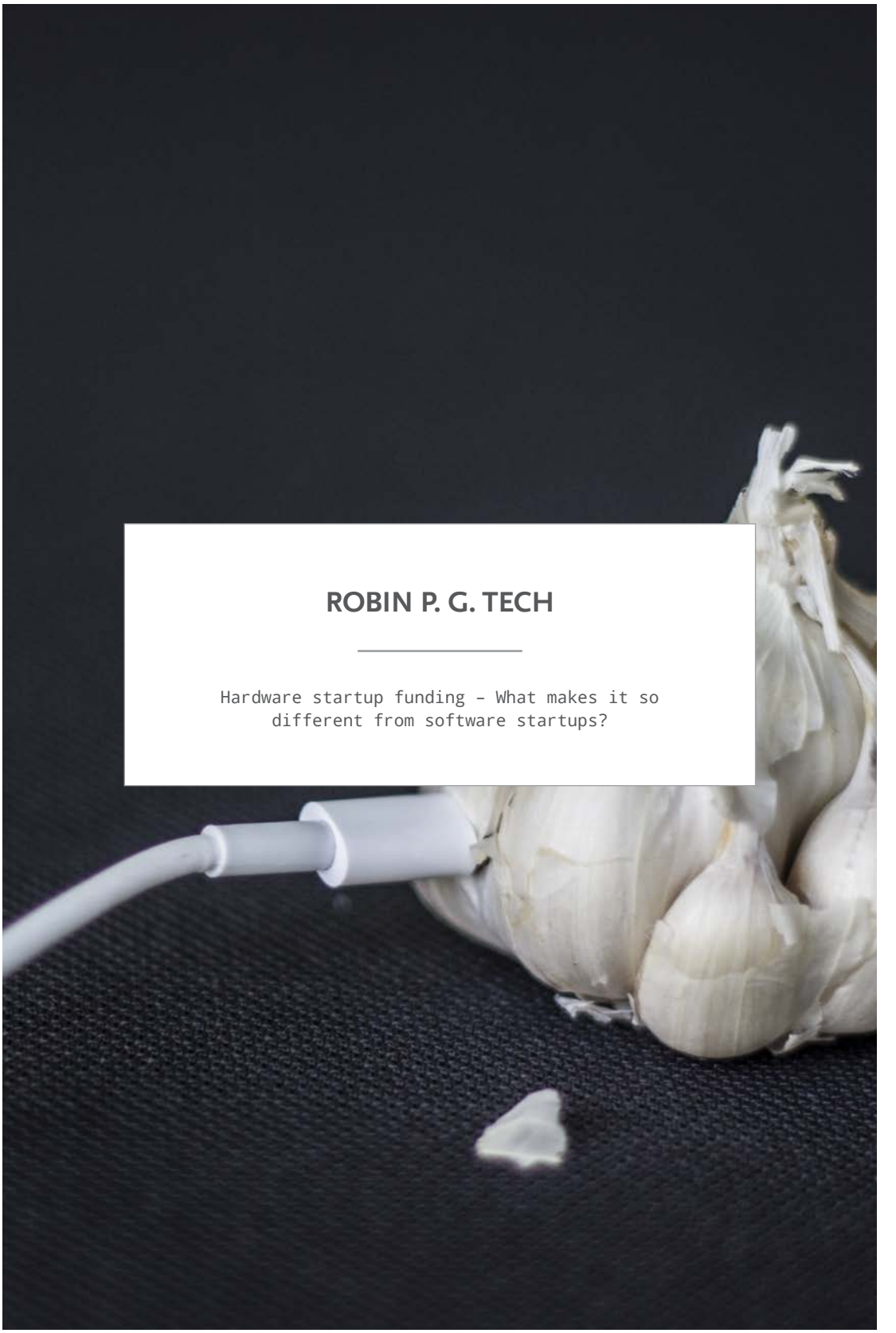
HIGHLIGHT

ENTREPRENEURSHIP

Innovative startups are an important factor in maintaining a strong business presence in Germany. In order to establish a promising environment for young, Internet-based companies, the first step is to understand the factors that both promote and hinder new business start-ups. The Innovation and Entrepreneurship Team of the Alexander von Humboldt Institute for Internet and Society works on this topic and offers Startup Clinics for selected startups and founding teams, focusing on issues of finance, HR and culture, marketing and sales, business model innovation, lean project management, and law. In the individual clinic-sessions, our doctoral students make inquiries about the current situation at the founding teams, discuss pressing issues and problems and provide initial ideas for possible solutions. Further, the doctoral students establish contacts to designated experts of our mentoring network to help the startup along with useful tips and suggestions. In the clinic-sessions, our doctoral students gain valuable insight into the factors that hinder and encourage establishing a business and much more. Based on the action-research method, the research team is then able to rely on its findings to work on an approach to support startups and to gather interdisciplinary insight into the startup ecosystem.

Since the clinic-sessions were established, there has been a strong demand. We are now working with 130 internet-based startups and have conducted more than 170 clinic-sessions. From the startups perspective, the most important issues are related to legal questions and financing. Our network of experts now consists of many experienced founders, successful entrepreneurs, managers and competent consultants. Our team looks back on an eventful 2014 and is looking forward to being able to help young, innovative companies to address their challenges in this year.

__ THOMAS SCHILDHAUER



ROBIN P. G. TECH

Hardware startup funding – What makes it so different from software startups?

VENTURE CAPITAL AVOIDS HARDWARE STARTUPS

Investing in a startup company is almost as risky as it gets. High uncertainty in respect to the business model, the technology, and the team combined with inherent market risks has given rise to miscellaneous methods to assess these young companies and inform funding decisions. However, even the organisations lauded as the financing motors of the startup world – venture capital firms (VCs) – struggle to yield returns adequate for the risks taken. In fact, the majority of European VCs doesn't make a profit at all. Venture capital funds remain a hoard though, primarily due to investors' portfolio diversification strategies and because capital has fewer and fewer safe places with decent returns to go to – and of course because some VC funds do indeed fulfil their yield promises.

Startups making a stab at a piece of these venture capital funds have to adhere to a set of rules in order to succeed. These rules include having an idea that is in some way innovative (e.g., in regard to the technology, the revenue model, and distribution channels) and of course a market potential that allows for the rapid growth of the company through soaring customer acquisitions, revenues, and ideally profits – i.e., what makes a startup a startup. A synopsis would read: Venture capital firms are cautious and like proven business models that are nonetheless innovative enough to enable fast growth and an enormously profitable exit in due time of the fund's term.

Some say that the venture capital model is thus only suited to software startups. These companies require relatively small upfront investments to arrive at a prototype or a usable product that can be used to proof market demand and show traction. Once the startup arrives at a working business model, rapid – and often global – dissemination is possible thanks to the Internet and standardised operating systems and browsers. Additionally, shipping digital products has minimal marginal costs and allows for the scaling VCs are looking for. Any startup that doesn't work this way has a hard time outdoing software companies in the fight for funding. Basically any firm relying on manufacturing – i.e., hardware startups – falls into this category.

Time restrictions induced by the funds' lifetimes establish an additional handicap for these companies. Whenever development or – dread the thought – research is necessary, venture capital often shies away from the company and its particularly unforeseeable future. But even if the product is likely to be successfully developed and the market potential is enormous (i.e., just good enough for a VC), hardware startups are likely to require too much time to attract customers on a global scale.

TIMES ARE CHANGING

In recent years, hardware began to tread some of the same paths software has started walking decades ago. Increasingly modular approaches, standardisation, and open source hardware communities have created an environment that makes hardware development increasingly faster, cheaper, and more accessible. This gave rise to the maker movement that helped to bring devices such as 3D printers to ordinary mortals. Some call it the hardware revolution, while others refer to it as the hardware renaissance, acknowledging that grassroots hardware development is anything but a new phenomenon.

Startup companies sprout in this ecosystem of innovation, openness, and low entry barriers. A pivotal element is of course the declining capital required to start a hardware business. Bootstrapping a company to build a working prototype of a piece of hardware is possible again. During my last trip to Boston, I had the chance to talk to a few MIT hardware startups. What I found striking was that business angels investing in these companies seem to be a lot closer to the product than it is the case in software startups. Founders told me that their angel investors knew their devices very well and gave actual engineering advice – it has been a while that I heard that from a software startup founder. Though this is highly anecdotal, it might hint at a greater non-monetary added value that business angels can bring to the hardware table and that it is something founders should be looking for.

As many hardware startups use the crowd to co-develop their devices (e.g., through open source hardware communities) it comes at no surprise that crowdfunding is also an attractive way to get the company started. Often, these startups even go through multiple crowdfunding campaigns and use different platforms as their financial needs change. That could mean starting off with a donation-based model that requires nothing more than a simple thank-you note to investors, to then – a few months and successful prototypes later – moving on to full-fledged equity-based crowdfunding with six-digit investments and above.

Notably, established players are beginning to notice this renaissance too. Stratasys' acquisition of Makerbot, BMW Mini sponsoring hardware startup fairs in New York and Berlin, Google's acquisition of Nest Labs, and, last but not least, venture funds specifically aiming at hardware startups (e.g., haxlr8r) are indicators that some can tell which way the wind is blowing.

Acquiring funding for a hardware startup still is a hassle and anything but easy – but frankly speaking, this applies to any new venture. What is changing is that it is no longer almost impossible. As hardware development goes the way software development went a long time ago, it becomes easier to test and grow ideas. In alliance with sources of capital ranging from your kindergarten teacher to corporate venture capital funds, I have a notion that it has never been easier to get a hardware startup off the ground. ◆

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

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INNOVATION AND ENTREPRENEURSHIP

Digital technologies cause fundamental changes in many aspects of society and provide countless opportunities for entrepreneurs. The research project Innovation and Entrepreneurship contributes to a better understanding of the supporting and hindering factors of Internet-enabled entrepreneurship. The group offers 'Startup Clinics' where members of the group hold discussions with founders about their business model and guide them to a network of consultants and mentors. Clinics focus on financial, human resource, legal, sales, and technological issues. Building on the data generated by the clinics, the research group gains knowledge of every phase in a company's life by closely following and monitoring the specific challenges founders face and the ways they overcome them.

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STARTUP CLINICS TALKS. LEARN FROM THE BEST

The Startup Clinics Talks (SCT) were developed for those interested in learning from some of Berlin's top startup minds. Our team organizes a series of local events with experts in the areas of HR, management, finance, law, sales, business modelling and more. Speakers will range from experienced entrepreneurs to professionals with years of domain expertise. Join us and connect with fellow entrepreneurs, and experts who are eager to learn about your startup. For more information please visit startup-clinics.com.

One of the SCT-topics in 2014 was *How to hire the best people for your Startup*. We invited Gitta Blatt, Head of Human Resources at Wooga, Europe's leading online and social games developer, as an expert for recruiting in startups. On 13 February 2014 the Berlin startup scene assembled in the betahaus to find out more about hiring a world-class team, one of the top challenges for any entrepreneur. As soon as a small company grows, finding the right people becomes a major issue. In her speech Gitta Blatt highlighted three points, that are essential for startup founders who want to start hiring.

RECRUITING NEEDS A CHANGE

The most crucial human resources issue for a founder is probably to find the first employees. These individuals set and pass on standards and thereby influence the selection process of all the employees that follow, which in turn makes them responsible for the future success of a young company. Therefore, it is essential for every founder or founding team to place special emphasis on selecting the first employees.

Traditional job postings are akin when it comes to both structure and appearance. For that reason, they are likely not the best way to acquire new talents. Successful recruitment for entrepreneurs and startups involves the use of personal networks. If an entrepreneur has a person as the ideal candidate in mind, he should contact him or her proactively. Even if he or she is not available at the end, they may have another appropriate recommendation. At Wooga, 40 % of staff have been hired through personal referrals. Using your own personal network is probably one of your best sources for job leads in the digital industry.

COMPANY CULTURE DRIVES GROWTH

Culture is one of the most important assets to a startup. Having a great and positive company culture not only drives talent and company growth but is also essential for retaining employees and minimising turnover. Woogas culture is built around values like 'fun' and 'success' which positively influence each other. Success stories should also be part of the external

presentation of a startup. Wooga uses channels such as Pinterest, Instagram, Somewhere and of course Facebook. As a result, Wooga receives numerous direct applications through social media from around the world.

While not targeted at the masses but rather on quality candidates, university relations can also help in the search for young talents. In summary, the three most important recruiting channels for Wooga are referrals, direct applications via social media and university relations. It can only be beneficial for a startup to focus on specific channels and not to lose itself in doing too many things at the same time.

WHEN IN DOUBT, DON'T HIRE

When it comes to recruitment and selection it is advisable that each new employee, regardless of his skills and abilities, needs to fit in the team. During the process it is recommended to seek feedback and involve other opinions.

Selection criteria at Wooga are team fit, creativity, motivation, performance orientation, degree of responsibility and decision making ability. In particular, it is worthwhile to look for any person acting out of great inner conviction. Being passionate is a key to success. Wooga has an extensive five-stage application process, which includes document check, Skype call, a test, full day on-site interview and in the end a personal interview with Gitta and Wooga founder Jens Begemann. When in doubt, don't hire. Even 95% is not enough.

—

Martin Wrobel is in charge of the Sales & Marketing Clinic as well as the HR & Culture Clinic at the Humboldt Institute for Internet and Society and organises the Startup Clinics Talks.

MAX VON GRAFENSTEIN

Protection instruments –
for and against innovation

For many startup founders, it is extremely important to know how to protect their innovation. This issue is among the top 3 legal questions discussed in the law clinic hosted by the Innovation and Entrepreneurship research project at the Alexander von Humboldt Institute for Internet and Society. In most cases, the initial discussion is about how to protect the startup's own innovation. However, during the discussion, the startup usually begins to recognize that the law also protects other people's innovations – against the startup itself.

The double-edged nature of law is what I myself experienced with my own startup MAUERSCHAU. In our app, MAUERSCHAU, we make historic Berlin visible once more using augmented reality and original photographs. In addition, eyewitnesses lead the users of our app through location-based interviews about the places where historic events occurred. It is a digital tour guide. When we got financing (at the beginning of last year), we thought this idea was so unique that we could hardly believe it when other startups with more or less similar ideas started mushrooming. At first, we assumed that people from these companies must have 'stolen' our concept. We had indeed sent it to many potential sponsors and partners. However, the truth is that many ideas are simply in the air, waiting to be caught. In most cases, they consist of previously known elements that are constantly recombined in new configurations. In fact, we had drawn on existing techniques and artistic ideas in developing the idea for MAUERSCHAU: The augmented reality technique lent itself to providing original photographs at the places where they were taken. And, compared to other cities, Berlin is the most appropriate application site in view of the fact that, as times change, its cultural heritage is at risk of being forgotten. Finally, our idea of making location-based documentaries with eyewitnesses was inspired by the artistic work *Alter Bahnhof Videowalk* shown by Janett Cardiff and Georges Bures Miller at dOCUMENTA(13) (Cardiff & Miller, 2012). So, would these artists and the inventors or very first appliers of augmented reality techniques be able to prohibit our mobile application MAUERSCHAU?

The answer to this question depends on the legal instruments that protect innovations. These are, amongst others, copyright law, patent law, protection for databases, protection for trade secrets, and trademark law. While all these rights protect different aspects of intellectual property, they are commonly based on the presumption that they foster innovation by protecting the interests of the people who have invested time, money or creativity in them. For example, copyright law seeks to protect an author's own intellectual creation from being copied, altered, exhibited or distributed by others. It guarantees the creator a legal monopoly on the usage of his or her work. Such a monopoly indeed risks restricting later creations: For example, if the idea of love letters were to be protected, nobody would be free to write love letters, at least, not without permission. This is why – generally put – copyright law does not protect the idea but only its expression in a certain form. Given that love letters can be expressed in an unlimited number of forms, the idea-expression

dichotomy safeguards the range of expression for lovers of the future. Of course, the line between idea and expression is difficult to draw, which has given rise to many legal cases – I examined the definition of the copyright protected work in more detail in my master's thesis *Copyright Protection of Formats in the European Single Market* (von Grafenstein, 2014, May 9). However, let us return to our example, MAUERSCHAU: Pursuant to the idea-expression dichotomy, the artists Janett Cardiff and George Bures Miller would only be able to forbid the re-creation of their work but not the transfer of their idea to our location-based interviews.

In contrast to copyright law, patent law also protects ideas, provided that they are registered as patents in a patent registry, for example, with the German Patent and Trademark Agency (DPMA). In order to be registered, the patent must fulfil several substantive legal requirements. The primary requirement is that it must be a technical invention. Unlike US patent law, European patent law does consider software to be technical inventions, but only under certain conditions. The rule of thumb is that computer programs can only be protected as patents if they control a mechanism, for example, the anti-blocking system (ABS) in a car or a computer's operation system. Technical inventions must in addition, be new, suitable for use in industrial applications and result from a process of invention. The invention is deemed new if it is not part of the technical state of the art, therefore, it cannot have been published anywhere. This is important to know when testing the invention. Such tests should only take place in closed groups with particular test users. Finally, the requirement that it emerge from inventive activities excludes an invention that does not sufficiently set apart itself from the technical state of the art. More self-evident inventions are not protected under patent law. For them, the protection of so-called utility patents might be relevant. In fact, in the case of MAUERSCHAU, there was a seeming conflict with a pre-existent utility patent.

Like most startups, I did not check if there were registered patents for augmented reality techniques. As a technical layman, it would have required much effort to go through the technical labyrinth of the registry files, which I could hardly afford to spend. I simply trusted that software is not patentable in Europe. Of course, some doubts remained: Did our augmented reality application use the iPhone camera and hence control a mechanism? Before I had a chance to lose my legal mind, some bad news began to circulate within our Berlin Transmedia Community. A cease and desist letter was sent by a person claiming to have registered a utility patent for the use of augmented reality with respect to museum tours. We were not the direct addressee of this letter, but we were explicitly promoting MAUERSCHAU as the „biggest virtual museum in the world!". However, I doubted the legitimacy of this cease and desist letter. Perhaps it was possible in principle to register the usage of augmented reality techniques for museums, not as a real patent but as utility patent. But in my opinion, this idea was certainly not new worldwide. The essential point here is that unlike real patents, utility patents are not tested to ensure they comply with the substantive requirements. Therefore, it is possible to formally register a

utility patent even though the substantive requirements, such as that the invention must be new, are not fulfilled. The substantive requirements are only tested in the case of litigation. Few people working in the creative field know that – and I presumed that this is what the person sending the cease and desist letter expected. That person demanded that community members experimenting with AR pay him or her corresponding license fees. However, to my knowledge, no one actually paid the fees. It nevertheless remains an illustrative example of the double-edged nature of the legal instruments protecting innovation.

As mentioned above, there are further legal protection instruments beside copyright and patent law. In the law clinic, legal protection for databases is particularly relevant. This instrument protects against the extraction of all or a substantial quantity of data that was systematically collected and for which a substantial investment was necessary. Database protection comes into play the moment startups use crawling techniques to gather data from other websites. Many startups do not know that if they gather at least a substantial part of the data from a website, this might infringe on the copyright related right to database protection. If the maker of the database – such as a website – does not provide an application programming interface (API) for the retrieval of its data or the startup cannot accept an individual agreement, the startup may not retrieve the data. However, the law does not protect against any retrieval of data but only against the retrieval of a substantial part of the database. In many cases, it is therefore possible to design the crawling technique that does not infringe the law.

A less relevant topic in the law clinic is the protection of business secrets. Secrets may be an issue if, like us, the startup sends its concept to potential sponsors or business partners. At least in the television industry, it occurs from time to time that a potential business partner declines an offer to buy a television format but then produces it without paying license fees. In those cases, the evidence that the startup sent the concept in response to a business interest signalled by the partner and that the latter received it, can play an important role in proving the infringement of business secrecy rules. However, this is no longer an issue if the information in question is no longer a secret, for example, because the startup has already pitched it publicly. In those cases, even a non-disclosure agreement (NDA) might not help because most potential business partners simply do not sign it. They will not risk having a startup sue them only because it thinks they would have stolen its idea. The same issue mentioned above becomes apparent: The broader the idea is, the less room an NDA would leave the business partner to pursue their own similar projects.

This leads us to what is in my opinion the most frequent protection instrument. I term this the 'art of execution'. It is not a legal mechanism but a practical de facto mechanism that might be supplemented by lock in-effects and further legal protection provided for by trademark law. The starting point here is that amongst many startups that are pursuing

a more or less similar business idea, only a few successfully bring it to market. The reasons for this are the startup's individual competencies and opportunities. If a startup finds a way of successfully executing the idea, it can indicate the success of its product or service by its brand. As such, it can register any signs (words, pictures, music, and even aromas) provided that they are distinctive, not misleading and not merely descriptive. An example for the latter requirement is that a manufacturer of handkerchiefs cannot register the term 'handkerchief' as trademark. Here again, the thought behind this is: If the manufacturer of handkerchiefs could protect this term, competitors would not be allowed to promote their products using this description. If these requirements are met, it can be registered in a trademark register, for example, the DPMA register. Similar to the utility patent, the registry only checks the formal but not substantive requirements, such as whether the usage of the trademark infringes on any pre-existing trademarks. This is highly relevant for startups because it might be very disadvantageous to change a brand after it becomes successful. Therefore, a startup should always check in advance whether its brand is identical or confusingly similar to another one that relates to the same classes of products and/or services. This principle also applies to Internet domains. These may also be similar to pre-existing trademarks and, therefore, cause confusion about the origin of the products or services offered on the website.

The previous examples should illustrate the nature of legal protection instruments for innovations as a double-edged sword. The legislator seeks to balance the interest of a person in protecting his or her innovation with the interest of others in maintaining the widest range of possible creations. De facto, many startups over-estimate the effects of legal protection and under-estimate the effects of practical protection mechanisms. In many cases that come to the law clinic, trademark law, as a supplementing protection instrument, is the most effective mechanism for maintaining the startup's practical unique selling point. Of course, the law here provides the legal basis for many marketing-related questions, from the architecture of the brand to its internationalisation. Whether these questions really become relevant depends on the startup's success in executing them. This principle also applies to our MAUERSCHAU. The question of whether our competitors end up on top or we do primarily depends on the individual competencies and opportunities – and, ultimately, on the creativity of the market. ◆

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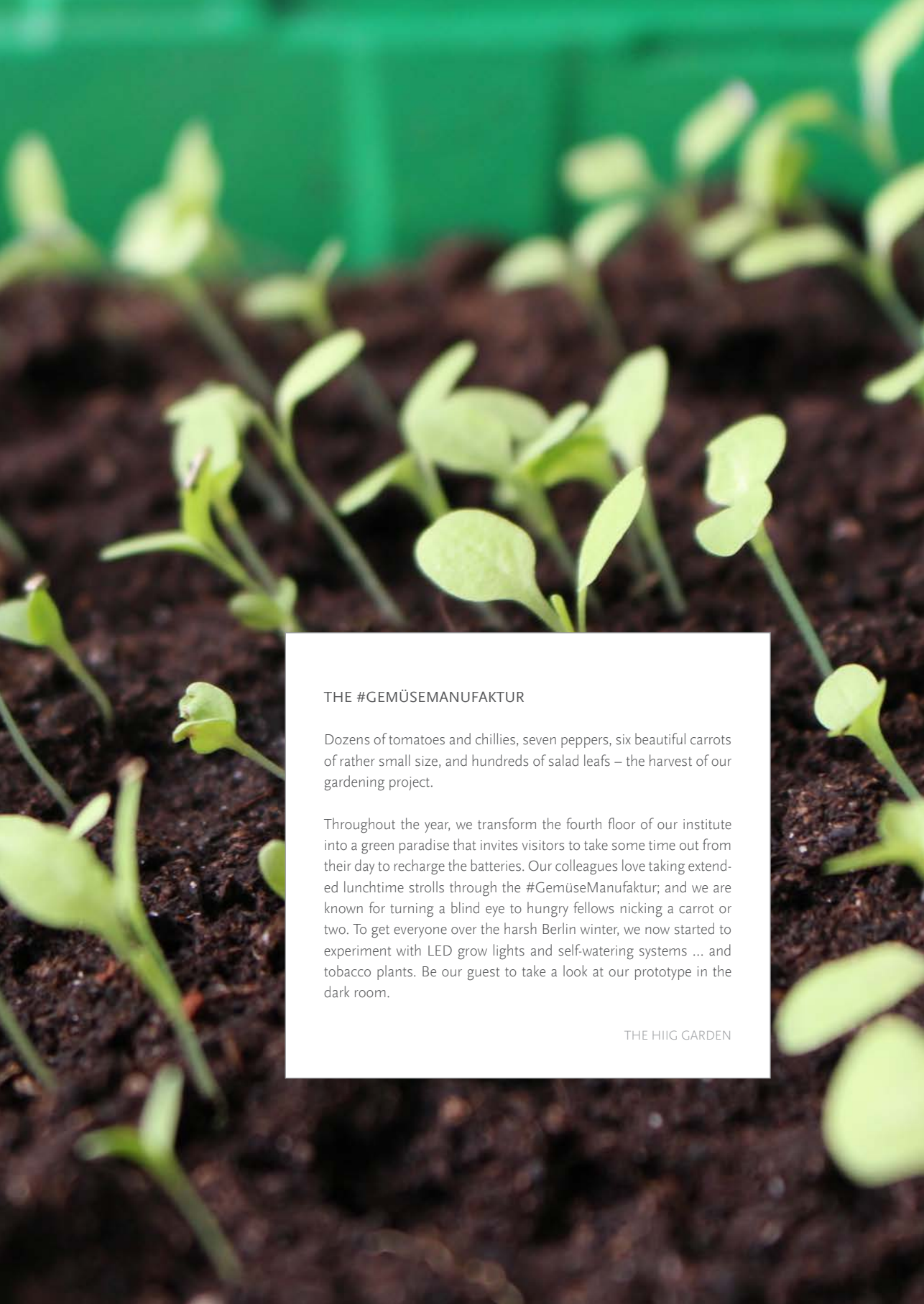
THIS IS AN ARTICLE BY **MAX VON GRAFENSTEIN**

This article was published on 24 November 2014 on the HIIG-Blog. Maximilian von Grafenstein is a doctoral researcher, focusing on copyright law, media law, data protection and IT law. At the Humboldt Institute of Internet and Society he works in the research project Innovation and Entrepreneurship and in the research area Internet and Media Regulation. He organises the Law Startup Clinic helping Internet entrepreneurs to develop their business models.

INTERNET AND MEDIA REGULATION

The Internet has become a universal technical platform that shapes public communication. Research in the area of Internet and Media Regulation derives from questions revolving around the normative structure of this new ecology. Both new intermediaries, as well as established information brokers play an important role in that structure. The research area is particularly interested in developing configurations, investigating the impact these formations have on the production and selection of content and, finally, what this means for normative structures and governance concepts. Research is furthermore undertaken on user-behaviour on social media platforms. The research area Internet and Media Regulation draws on law and policy studies, conducting transdisciplinary projects on Social Media Governance, Notions of Public Spheres in Information Law, Legal Aspects of Crowd-Sourcing and When Data becomes News.



THE #GEMÜSEMANUFAKTUR

Dozens of tomatoes and chillies, seven peppers, six beautiful carrots of rather small size, and hundreds of salad leafs – the harvest of our gardening project.

Throughout the year, we transform the fourth floor of our institute into a green paradise that invites visitors to take some time out from their day to recharge the batteries. Our colleagues love taking extended lunchtime strolls through the #GemüseManufaktur; and we are known for turning a blind eye to hungry fellows nicking a carrot or two. To get everyone over the harsh Berlin winter, we now started to experiment with LED grow lights and self-watering systems ... and tobacco plants. Be our guest to take a look at our prototype in the dark room.

THE HIIG GARDEN

UTA MEIER-HAHN

Conflict of conventions? What a social sciences view can reveal about the interconnection deal between Netflix and Comcast

The news spread fast: Netflix and Comcast have sealed an interconnection agreement. The online video service will pay the Internet access provider for the large amounts of video data to be delivered into the Comcast network, without detours. At the ends of Comcast's network, Internet users can hope for a better Netflix experience. A lot has been written about this deal despite the fact that the companies have been scarce on information. The press release (Comcast, 2014, 23 February) barely extends over half a page.

What is going on here? For a long time, hardly anyone took notice in interconnection agreements, apart from professionals such as network engineers or exchange point operators. But recently, network-heavy companies, consumer activists and long-time Internet witnesses got in motion about it. The public uproar caused by the deal between Netflix and Comcast might indicate an uncertainty behind the scenes. At stake may be a shared interpretation on who has got to pay whom and for what, when networks interconnect.

CONVENTIONS MITIGATE UNCERTAINTY

The economics of convention can help to interpret this uncertainty. French theorists, including Thévenot, Orléan and Boltanski, have introduced and elaborated this concept since the mid 1980s to explain social – and therefore also economic – behaviour. The economics of convention start from the idea that economic action is not only based upon utility maximisation, but that we also rely on conventions. Conventions can be understood as shared assumptions and practices that have consolidated customs. In interaction, conventions reduce uncertainty. According to the concept, situations appear as natural when all parties share the same frame of reference that has been established by the convention. The fact that the frame is produced socially slides into the background. (For a good summary of the concept see Jagd, 2007.)

The development of the Internet infrastructure is most likely shaped by conventions as well. However, they may not have yet been reflected as such. It has rarely been questioned how private and public actors produce the Internet by interconnecting network resources. This silence around interconnection arrangements could indicate that the actors who were originally involved shared the same frame of reference. The public attention for a singular case such as the Netflix/Comcast deal, however, likely stands for new interpretations emerging. They reinforce uncertainty and cause justifications. It would not come as a surprise if alternative views about interconnection modes such as peering or transit were starting to arise. The trend towards liberalisation in the telecommunications sector, infrastructure innovations such as content delivery networks and – in the Netflix case –, an increasingly sensitised user base keep the sector in motion.

If two forms of coordination conflict with each other, their implicit logics start surfacing. In order to overcome the conflict, the parties begin to justify their actions

and thus disclose the foundations of the conventions they employ. They explain which context they hold true for their action and claim that this situational framework be shared by the other parties. As we justify our actions, we articulate the standards and interpretations that guide us in a situation. (Jagd, 2007, pp . 80 – 83)

HOW DO NETWORK ACTORS JUSTIFY THEIR INTERCONNECTION PRACTICES?

What are the old and new conventions that might conflict with each other in interconnection agreements? One would have to listen to the actors involved: Internet access providers, content and distribution companies, Internet exchange point operators and carriers. However, they traditionally remain silent about the details of their deals.

Nevertheless, we can test the idea in the network actor's environment. Self-acclaimed "voice for the streaming and online video industry" Dan Rayburn recently published two ambitious blog posts (Rayburn, 2014a, 2014b) about the topic. They unleashed a debate among professionals and an interested public. In the first article (2014a), Rayburn claims mainstream media outlets "get it all wrong" when they denounce either Comcast or Netflix of illegitimate behaviour. In the second article (2014b) he provides some facts about the deal. Throughout the articles and their hundreds of comments, a number of possible frames of reference provide rationalities for the network actor's behaviour. Some of which I will outline here. This is not about judging the evaluations. It is rather, to exemplify that different rationales of justification are possible in economic action and that the network actors already are surrounded by conflicting frames of reference.

So how do the participants in this discussion justify or criticise the agreement between Netflix and Comcast? An excerpt:

> **Independent economic action:** Interconnection arrangements among infrastructure operators purely are a business matter. "Netflix's streaming quality is based on business decisions, that's it." (2014a) They occur in an isolated economic field of action. "Users have no influence" (duddits-fairuse, 2014). Companies act out of self-interest. "ISPs are not charities" (Gregory, 2014). Transparency has no place in this setting, because contracts are not disclosed here, as they are not in other industries.
>
> **Natural synthesis of Internet architecture and market:** Interconnection arrangements take place on the basis of a natural synthesis of commercial and technical logic of action. Commercial and creative peering has happened since the early days of the Internet. It is a constitutive element. "It's how the Internet works", argues Rayburn (2014b).
>
> **Techno-orthodox:** Younger network actors such as Netflix lack legitimacy in how they use the Internet. They shall recognise, correctly interpret and respect the technical

standards: "The Internet was not designed to be television. IPtv is a commercial product to do the work, not for the carriers to get stiffed on the bill" (Crusader, 2014). The Internet appears in this sense as an object with fixed properties. Its autonomy is to be protected against misuse – in this case allegedly by television.

Techno-orthodox arguments are also brought forward to demarcate whose arguments even may be taken seriously – namely: those of technicians. "If you knew how the Internet worked, you would not be making the points that you are" (Hammett, 2014). A lack of technical punditry may seriously harm the Internet: "OMFG, it's obvious from many of the posts that a little bit of network knowledge is dangerous" (Joe6Pack, 2014).

Ethical reflection: Economic actors shall consider the social context of their activity as a reference. As some commenters see it, network actors currently do not adequately meet this expectation. Internet access providers confront content providers with traffic-balance requirements that are "morally indefensible" and "disingenuous" (Enger, 2014). The allegation is: "extortion" (texrat, 2014). "This is a techno rant," (O'Neill, 2014) complains one commenter who misses consumer protection aspects and a reflection within the discourse.

IN CASE OF CONFLICT: CALL UPON AUTHORITIES

Several commentators are disappointed that their frames of reference seemingly are not being internalised by the network actors. And they offer a glimpse at what unsolved interpretational conflicts may lead to: Those who fear succumbing to their frame of reference will try to form interpretional bonds with potentially powerful actors, namely: call for external supervision through regulators. "It is important to relate this action to the discussion (…) over new regulatory and interconnect structures", argues one commentator. "The public needs to stay on top of this", (Cole, 2014) demands another.

In summary, just based on this third-party discussion, several possible frames of reference become apparent which network actors might rely upon to more or less acceptably justify their interconnection practices: rational business decisions with maximization logic, taking commercial peering as an evolutionary base of the internet, techno-orthodoxy and ethical reflection.

WHAT'S THE OBJECT OF INTERCONNECTION DEALS?

As if harmonising the conflicting frames of reference were not difficult enough, the discussion below Rayburn's blog posts indicate yet another possible source of uncertainty: the trade object itself.

"What exactly are they [the ISPs] selling to customers which the[y] call an 'internet connection' anyway?" (noname, 2014), wonders one commenter. And author Rayburn himself emphasises in the second article that in the case of Netflix the object of trade has been refined from Comcast through various quality guarantees (Rayburn, 2014a). Economic activity does not only work better if the parties share the same frame of reference, it requires that they agree on the object of trade and its properties. It is a collective interpretive effort that facilitates business (Thévenot, 2002 , pp . 189 – 193).

But what is the good that the Internet infrastructure produces? How can the object of trade between Internet access providers, content-driven enterprises and content delivery networks be adequately described? 'Traffic' or 'connectivity' seem to be too general of an answer considering network dynamics. Data flows relate to money flows – but this relationship is hard to qualify.

Obviously, companies succeed in specifying the object of the trade well enough so that business can happen. The agreement between Netflix and Comcast proves this. However, it would not be surprising if defining the object of trade may become increasingly difficult, the more different players emerge on the marketplace.

I believe it would be worthwhile to pursue the question of the object a bit further. If the uncertainty about the object actually does not only prevail among end-users but also among economic network actors, this would imply a rather high need for coordination in interconnection relationships.

A lack of clarity about the object of trade would also have implications for research on interconnection arrangements: Any research that does not take into account the preliminary 'making of the object' would appear incomplete.

SUMMARY AND OUTLOOK

The interconnection agreement between Netflix and Comcast has offered an opportunity to reflect about the rationales that may lead network actors in their peering policies. By approaching the uncertainties with the concept of economics of convention it can be shown that the companies who are involved in interconnection agreements have a plurality of frames of reference available that they can base their economic decisions upon – more or less successfully. Since the agreements are not accessible and the network actors themselves hardly speak out in public, it is difficult to grasp the actual justifications and rationales empirically. Taking a detour via an industry professional's articles allowed to test the idea of the conventions in this field. The vivid discussion in the comment section already indicates that there is – at least in face of the public – no common understanding

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

This article was published on 27 March 2014 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 also works for the Internet Policy Review.

INTERNET POLICY AND GOVERNANCE

The research group Internet Policy and Governance examines processes of public and private ordering on the Internet. Seen from a social science perspective, practices of ordering are conceptualised as the interplay between socio-cultural, technical and legal norms. Particular interest lies in ordering processes and their significant impact on the further development of the Internet as a whole. Such processes span copyright law including its implementation, freedom of speech in social media and the transformation of Internet architecture. The research area seeks to combine two innovative schools of research: governance research conceptualises ordering processes as decentralised methods of regulation in which all relevant actors and regulation parameters are considered. The 'science, technology and society' (STS) approach of science studies emphasises the social character of science and technology development and conceptualises technology as "society made durable" (Bruno Latour).

of an acceptable justification, quite independently of any jurisprudence. The frames of reference put forward range from (1) supporting economic decisions that are based upon maximising self-interest over (2) assuming a natural synthesis between technological and economic logic as the motor of Internet development and (3) a techno-orthodox interpretation of norms to (4) calls for ethical reflection by the actors. The frameworks allured to should not be confused with the actual frames of reference that may be acted upon in negotiations on interconnection arrangements. However, they show that there is a potential plurality, a source of uncertainty. This plurality ought to be investigated further in order to better understand why the Internet evolves the way it does. ◆

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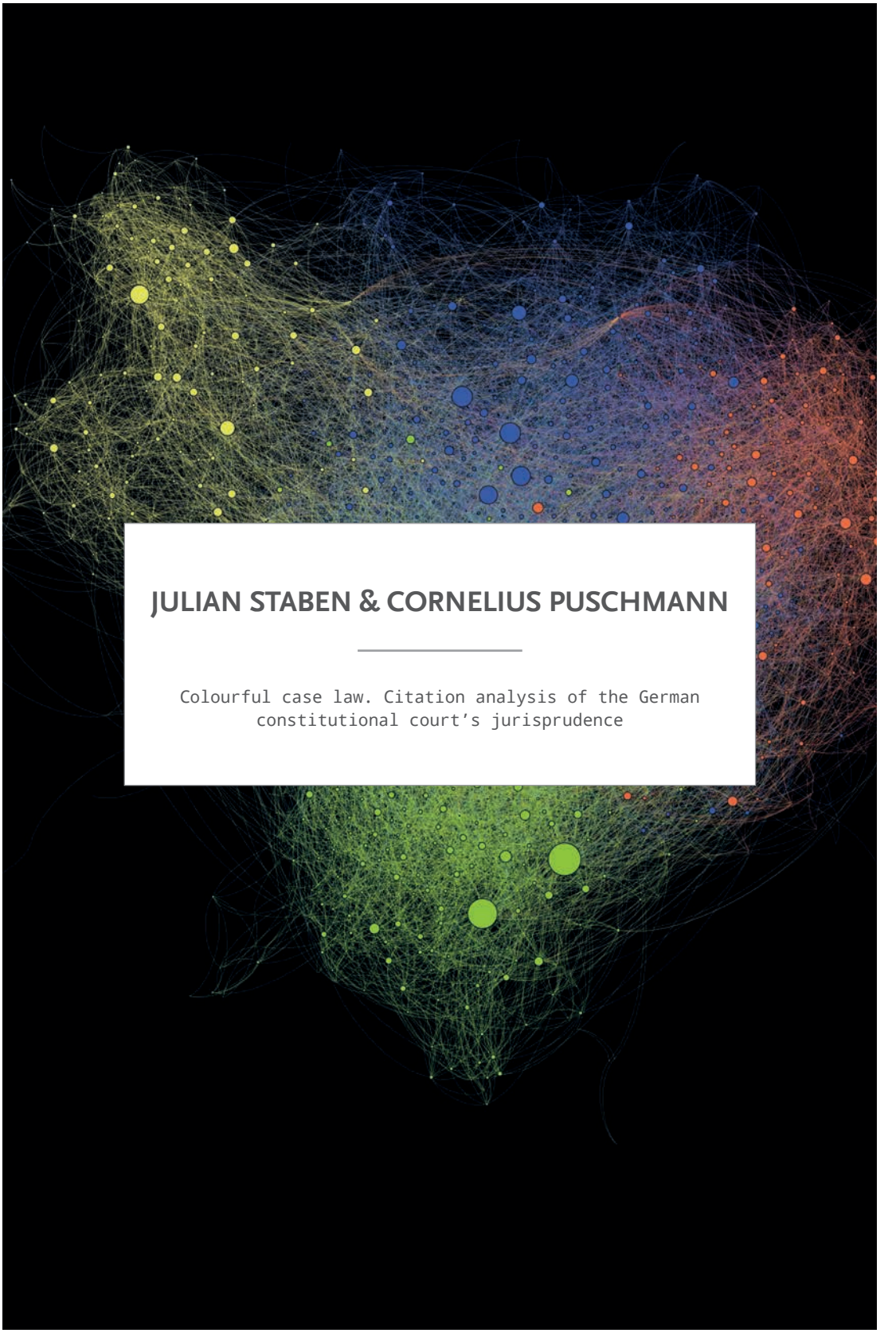

JULIAN STABEN & CORNELIUS PUSCHMANN

Colourful case law. Citation analysis of the German constitutional court's jurisprudence

With increasing computing power and the ubiquitous production of data, the method of network analysis has spread considerably. This particular method focuses on the connections between entities and looks for conclusions regarding the nature of certain networks and potential relations within it. For example, network analysis was used to study digital spheres of political opinion influence (Adamic et al., 2005) as well as analysing terror cells (Krebs, 2002). Decisions of the US Supreme Court (Fowler et al., 2008) and even the German civil code (*Bürgerliches Gesetzbuch*) (Tolksdorf et al., 2012) have been subjected to an analysis of this kind. However, the network resulting from self-citations in decisions of the German constitutional court (*Bundesverfassungsgericht*, abbreviated BVerfG) has so far never been studied.

In order to change this, we subjected the collection of the most important decisions of the BVerfG, meritoriously digitised by the project *Deutschsprachiges Fallrecht* (DFR), to a network analysis using the programmes R and Gephi. This collection holds what most German jurists know as cases cited with the abbreviation BVerfGE. The DFR selects the cases according to their relevance in teaching. As a result, decisions regarding for example social law, pensions, and tax law are underrepresented. The volume and page numbers of the printed version (for this is how the decisions are typically cited) are adopted and a short title is added. Following the selection criteria, the DFR database and our set of data mainly includes decisions by the senate and plenum of the court (cf. § 31 (1) and (2) BVerfGGO, which is the procedural by-law of the constitutional court). Therefore, the collection, which comprises 1,394 decisions, only encompasses a fraction of the overall 200,000 proceedings (of which approx. 181,000 are concluded with a decision) that have been processed by the court since 1951 (Bundesverfassungsgericht, 2014). One can assume that the decisions included in the collection are of high theoretical and practical value and that they are often disputed (see §§ 93 – 93d BVerfGG, which is the Law of the constitutional court. It outlines which decisions are published.).

The analysis is based on references from newer to older decisions that are marked as the connections of the network. The overall network is created by the decisions depicted as dots and the references as lines connecting the dots. The more often a decision is cited, the bigger and more central the knot symbolising the respective decision. Different colours are used to visualise groups of decisions, or clusters, which exhibit considerably shorter chains of references internally than they have to other parts of the network. On average the length of the path connecting any two dots is 3.48, the overall longest line connects through 18 points. Further, over 90% of decisions are at a maximum distance of 6 or 7 hops away from each other.

But how can we draw statistical conclusions from this network that can be considered useful in constitutional legal practice and theory? In an attempt to answer this question, two hypotheses shall be examined in more detail.

THE MOST CITED DECISIONS ARE THE MOST RELEVANT DECISIONS OVERALL.

The reference to a previous decision in a court's reasoning can be considered an inherent assessment of its relevance in deciding the current case. Assuming that all assessments of relevance of all court judgments are more or less even and then adding these up, the result is a list of the most relevant precedents. This relevance pertains to the BVerfG's task and is derived from its own judgment. This simple method, could be further refined by weighing and including surrounding references (thus by using the centrality of the decision, cf. Fowler et al., 2008, p. 20). It is, however, omitted for the purpose of this piece.

Case	Incoming References
18, 85 – Spezifisches Verfassungsrecht	125
7, 198 – Lüth	114
7, 377 – Apotheken-Urteil	88
6, 32 – Elfes	87
8, 274 – Preisgesetz	77
1, 14 – Südweststaat	77
50, 290 – Mitbestimmung	76
1, 208 – 7,5%-Sperrklausel	72
4, 7 – Investitionshilfe	71
1, 97 – Hinterbliebenenrente I	68

Such a relevance ranking may sound important and valuable at first – especially to the legal laymen. However, the general relevance of decisions, i.e. their importance for the constitutional jurisprudence in total, is not a big asset. The overall relevance cannot be considered particularly helpful when the constitutional court faces the task of selecting the relevant laws and precedents when deciding on a specific case. It does not help the constitutional jurist when making normative judgments by looking back and forth between the facts of a case and the law or preceding cases. It is possible that such a

ranking could be the starting point when searching for relevant precedents. However, for a jurist with knowledge of constitutional law, it is generally more useful to consult articles, textbooks and especially commentaries. Further, it should be noted that German constitutional thinking is deeply rooted in each individual fundamental right enshrined in the *Grundgesetz* (abbreviated: GG, the German constitution) and that precedents, in comparison, have only a subordinate function.

The hypothesis that the most cited decisions are the most relevant, may therefore be correct in general. However, there is limited practical value to it. An exception could arise when one wants to understand the constitutional law by the means of precedents. To understand certain areas of constitutional jurisprudence it might make sense to focus on specific clusters of decisions. Therefore, we need to change from the macro-level (as shown above) to the meso-level (sub-network) of the citation network.

THE RESULTING CLUSTERS OF DECISIONS RELATE TO CERTAIN AREAS OF CONSTITUTIONAL JURISPRUDENCE.

The coloured clusters of decisions are determined by a modularity algorithm (see e.g. Blondel et al., 2008). Decisions within a cluster are more strongly connected to each other, than with decisions from other clusters. And in fact, the clusters partly represent certain fields of constitutional law. The yellow cluster in the visualisation (see p. 170) can be linked mainly to the field of state organisation (*Staatsorganisationsrecht*), as well as the constitutional areas of election, political parties, and mandate. On the other hand, the green cluster seems to predominantly encompass decisions based on the fundamental rights regarding personality and communication. The red cluster mainly touches upon the areas of taxes, family, social benefits, and questions of equality. The contents of the blue cluster are freedom of occupation and entrepreneurship and other areas. Especially, for the latter two there is no clear-cut separation.

Additional cross-connections between these fields (i.e. not only caused by material legal similarity) could arise from common constitutional procedural problems, questions of standing and obligations regarding fundamental rights in general, but also overarching dogmatic questions (scope of protection [*Schutzbereich*] – interference [*Eingriff*] – justification [*verfassungsrechtliche Rechtfertigung*]) and the like. Time should also be considered a factor, when explaining why a decision cites a certain case rather than directly referencing an older landmark decision.

The clusters themselves and especially some of their sub-clusters could potentially be a starting point when tackling sub-fields of constitutional law by using precedents or when trying to locate a decision within the vast amount of jurisprudence. Such a method could further prove helpful when trying to ascertain the legal-historical perspective on, and the

genealogy of, certain dogmatic or doctrinal figures – whereas using only the respective literature for this, would prove time-consuming. Network analysis cannot replace a more detailed look at the context and type of the citation. However, it can provide a useful first step into the matter. Including the chamber decisions of the BVerfG into the network could be beneficial, as these are rarely the topic of academic legal discourse. To conclude, the network analysis of constitutional jurisprudence can never replace meticulous legal work with decisions, commentaries, articles, and monographs, but it does supplement this work with a valuable additional perspective, especially in the fields of legal history and legal sociology. ◆

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THIS IS AN ARTICLE BY
JULIAN STABEN AND CORNELIUS PUSCHMANN

This article was published on 22 Dezember 2014 on the HIIG-Blog. Julian Staben's research examines chilling effects on the exercise of fundamental rights. At the Humboldt Institute for Internet and Society, he is part of the project Participation in German Law. Cornelius Puschmann is an associate researcher at the HIIG as well as a post-doctoral researcher at the Berlin School of Library and Information Science. His research interests include CMC and Open Science, as well as ethical and methodological issues surrounding social data.

PARTICIPATION IN GERMAN LAW

In cooperation with the Hans Bredow Institute, this project focuses on the e-petitions platform of the German parliament, the Bundestag. Until August 2012 the co-signment of an e-petition was only possible under a persons' real name. After that a petition could also be co-signed pseudonymously. This project addresses the question: How does the behaviour of those who participate change and who is actually using the platform?

ASSOCIATE RESEARCHERS

We maintain close research links with numerous academics whose research interests and topics connect to the field of interest of the HIIG. Working at institutes from all around the world our associate researchers provide input from diverse backgrounds and help us to cover topics and knowledge beyond our regular agenda.

Illustration from the study (p. 28): Interest-activity profile – *relationship between interests and engagement in participation forms.*

PARTICIPATING AND MAKING DECISIONS ONLINE – PARTICIPATION STUDY 2014 OF THE HIIG

The rise of the Internet has been accompanied by the promise of an overall democratisation like no other medium before. Ever since, the discussion about increasing participation in society is closely linked to the question of the democratic potential of the web. But there is equally strong academic interest in online participation in the economic context: Online-based participation formats are increasingly implemented into practice, e.g. in design or innovation platforms and crowdfunding tools.

The participation study of the Alexander von Humboldt Institute for Internet and Society, which was published in June 2014, embraces the political and economic perspective. The representative study, in cooperation with TNS infratest, provides information about the participatory behaviour of German Internet users. An interdisciplinary team collected data from 13 different participatory projects. The spectrum of projects runs from online petitions to participatory budgets, and from the development of products to the design of campaigns.

ONLINE PARTICIPATION IN POLITICAL AND ECONOMIC CONTEXT

Despite comparable concepts and platforms of the participatory offerings in the political and economic sector, there are central differences regarding the intention, as well as success criteria, of online participation projects. In the political field the aim is to legitimise political decision-making processes and to reach and involve broad sections of society. Whereas in the economic sector, it is of particular relevance for the company to gain insight into the needs and interests of the participating customers.

BROAD PARTICIPATION...

One of the most important findings of the study is the broad use of the participation formats. Nearly 50 percent of those surveyed, participated in a political platform or in the development of products. Especially the 18 to 36 years olds are particularly active, with men more so than women. The findings of the study contribute to empirical results within the participation research that state that the probability of online participation increases with formal education. Moreover, our empirical findings show that age, level of education and political interest are crucial factors for participating in general. Therefore the groups of people who participate online have similar socio-demographic backgrounds to the groups of who participate offline.

... IN AVERAGE ONE AND A HALF HOURS

In regard to time, respondents show remarkable commitment. On average, participants reported having spent one and a half hours participating in the project they reported on. The collected data refers to the participation form that each respondent remembered best. The data shows that signing e-petitions has the highest reach among the respondents but the shortest participation duration. In contrast, competitions for developing products online have the lowest number of participants but the longest participation duration. The possibility of winning a price can prove decisive in making this commitment.

VERY POPULAR: SIGNING ONLINE PETITIONS

Online petitions have turned into a popular form of political participation. Respondents report a big interest in setting up online petitions themselves but due to the required effort, actual participation numbers stay very low.

Taken as a whole, participatory offerings in the economic sector are less well known than those in the political arena. However, the economic forms crowdfunding and online product configuration also reach a large audience of the online population.

MOTIVATIONS AND INCENTIVES BEHIND PARTICIPATING ONLINE

A cluster analysis of responses concerning the motivation for participating online shows different groups of participants with the same incentive structures: one of the groups consists of highly motivated people who report a high enjoyment while participating and have a great interest in the outcome of their task. Another group is especially interested in achieving learning outcomes and winning prizes, while the other user group has limited motivation and is mainly participating because of the possibility to win a prize – but not because of the participation task itself.

INCREASING COMPETITION IN THE FIELD OF ONLINE PARTICIPATION

Quantity and quality of online participatory offerings are rising – not least because of the increasing expectations of citizens in the transparency of political processes and demands for increased participation in political decision-making processes. The growing number of participatory formats is accompanied by an increasing competition between formats and causes, especially in the political field. Active participants will be spread out and the common criterion for success – a broad participation – will be even more difficult to achieve.

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This text was written by Hendrik Send and Julia Ebert, co-authors of the study.

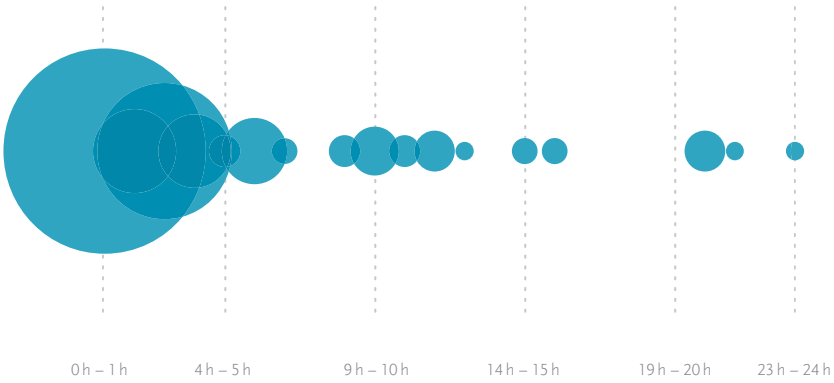

Illustration from the study (p. 30): Amount of users by duration of participation

DIGITALER

orangelab

DWissen

THE GERMAN SCIENCE YEAR ON DIGITAL SOCIETY

Within the German Science Year 2014 on the digital society, we had the opportunity to host three special editions of our monthly talk format called 'Digitaler Salon'. The Science Year is a joint initiative of the German Federal Ministry of Education and Research (BMBF) and Wissenschaft im Dialog (WiD). For this special occasion we left our premises at Bebelplatz and discovered new locations throughout Berlin.

Online Participation was the topic of the first special edition. The panel and the audience discussed the potential of online petitions and how the web changes the way we interact with politics. In the second talk about the Internet of Things, we asked questions such as do we really want to live in smart homes and what is the ethical problem behind autonomous cars? Last but not least we pondered whether a digital world needs digital learning. The concept of Paducation was vividly discussed in our third special broadcast.

The Digitaler Salon is an event series conducted in cooperation with the German broadcasting agency DRadio Wissen. It investigates the impact of digitisation on society. Once a month we invite special guests from academia, journalism and economy in order to engage in a dialogue with the audience and the #DigSal twitter community. Moreover, the discussion can be followed via livestream. The Digitaler Salon is aired by the radio programme HÖRSAAL on DRadio Wissen and produced by our partner Kooperative Berlin.

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RESEARCH REPORT 2014

RESEARCH REPORT 2014

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Joint Research: Structures of Coordination and Rule-Making in the Digital Age
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Appendix: Monitoring of the institute's activities M.204

In 2014 the Alexander von Humboldt Institute for Internet and Society (HIIG) team has been focused on publishing the first research results, further the on-going research projects and advance and sharpen a long-term research strategy.

The research objectives entail:

- Focus on publications and academic output
- Network of Centres: enhanced research collaboration
- Advancement of the doctoral programme and the HIIG fellow programme to promote up-and-coming researchers within
- Support research transfer through topic-oriented events and communication
- Develop a long-term research strategy

As in previous years, it has been important to secure the long-term funding of the institute and succeed in evaluated third party funding applications.

RESEARCH AREAS AND PROJECTS

The continuous focus on academic output resulted in a wide range of publications and conference contributions on an international scale and some highly regarded conferences within the research community.

The HIIG researcher 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 two overarching research projects (setup in 2013) to further transdisciplinary exchange and joint research at the institute. Read on for details of several key aspects from the overarching research projects and research areas:

JOINT RESEARCH: ONLINE PARTICIPATION

The idea of facilitating participation in organisational decision making through the Internet is a topic that is key to all our research areas. From a political perspective we are interested to see how and in which areas political entities integrate stakeholders through the Internet. Our innovation team conducts research on how firms integrate users and customers into their innovation activities.

While we are knowledgeable about the levels of Internet usage and involvement of the German population, knowledge about specific activities and motives is lacking. We are particularly interested in actors who create e-petitions, engage in participatory budgeting projects, or improve products and services through their ideas. In 2014 and in cooperation with TNS infratest, we

conducted a study on the participatory behaviour of German Internet users. The study focused on the political and economic context of participation. An interdisciplinary team from various research areas collected data on the usage of participatory offerings – ranging from online petitions to participatory budgets, to the development of products and the design of campaigns. We were surprised to find that the vast majority of German Internet users are aware of participatory options and that nearly 50 percent of those surveyed had previously used one form of participation we looked at. We found the salience of socio-economic factors for online participation to be less important than in classical participatory settings and age to be inversely related with the user's propensity to participate. The study is published in a HIIG discussion paper. Among newspaper articles and blog discussions our study has led to two research proposals to the BMBF in the area of participatory product development. In 2014, the Internet-enabled Innovation department began to intensify research in the context of open design. We presented an overview of the topic at SASE Conference, Chicago.

In 2015, the HIIG continues its research on participation; our institute has been invited to publish an edited book on the topic. Furthermore, we will focus on new research areas by looking at emerging forms of online participation and effects on organisations and society as a whole.

JOINT RESEARCH: STRUCTURES OF COORDINATION AND RULE-MAKING IN THE DIGITAL AGE

The interdisciplinary conversation on structures of coordination and rule-making continued to be a cross-cutting theme across the institute's work in 2014. The departments, with a strong focus on governance issues, elaborated and spelled out their respective angles on rule-making in the digital realm. The department Internet and Media Regulation finished its lead project on Social Media Governance with a conceptual paper and a methodological paper addressing four key factors of governance on online platforms: law, contracts, software design (code) and social norms. The department Internet Policy and Governance articulated its governance concept in a discussion paper connecting mundane acts of coordination with formal, codified means of regulation and the department Global Constitutionalism and the Internet elaborated its angle on governance with a focus on the multi-layered processes and heterogeneous fora of coordination and rule-making in a grant proposal on global privacy governance. We discussed and compared these approaches to rule-making in the digital realm in informal discussion groups and in dedicated sessions during each of the institute's quarterly two-day meetings.

The subject of structures of coordination and rule-making in the digital age has proven to be so important to the institute's work that it will constitute an 'area of competence' for the HIIG under the new designed research profile.

INTERNET AND MEDIA REGULATION

Our main focus in 2014 laid within the continuation and finalisation of projects that had already been started in 2013. One of them being our **Social Media Governance** project; a collaboration with researchers from the Hans Bredow Institute and the Faculty of Law at Haifa University. The project aims to build methodological foundations for capturing and analysing the four factors of governance in social media: law, contracts, software design (code) and social norms. Starting with a profound analysis of 'code', using Facebook as the example, an empirical phase was launched. To get an insight on social norms covering this practice we also developed and conducted a survey both in Germany and in Israel. The results were presented on several occasions during the year by researchers of the participating institutions. Furthermore several publications record the academic output of the project. A peer reviewed article focussing on a methodological approach to unveil the normative dimension of code is about to be published: Oermann/Ziebarth: Interpreting code – Adapting the methodology to analyse the normative contents of law for the analysis of technology, Computer Law & Security Review (CLSR) Vol. 31.2 (2015) – forthcoming. Furthermore the results of a pilot study on the governance background of certain user behaviour (uploading a picture) has been issued on SSRN: Oermann/Lose/Schmidt/Johnsen: Approaching Social Media Governance, HIIG Discussion Paper Series No. 2014 – 05. Although this specific project has come to an end, there are still several unanswered questions remaining and thus research in this area will continue, leading to the development of similar projects in the upcoming year.

Another focus of our research in 2014 lay on the **e-petitions** project, revolving around the online participation tool of the German Bundestag. It also already set sail in 2013 as a sub-project of the joint research on the effects of online participation. Its goal was to take a closer look at the motivation of people to participate in political opinion making in Germany. To what extent is the incentive to take part in the political process dependent on the simplicity of the available means of participation? Has the percentage of citizens becoming involved and signing petitions increased since it became possible to participate online? We were able to plot a dataset of approximately 3,5 million data points that were generously provided by the e-petition platform. Furthermore a survey was developed, in close cooperation with Jan Schmidt and Katharina Johnson of the Hans Bredow Institute. In 2014 we evaluated the surveys, as well as our own findings from the dataset and drew several enlightening conclusions. Maybe the most surprising of which was the fact that the general possibility of petitioning online has had per se, no effect on public acceptance and participation. The outcomes were or are to be published in two papers – one from a legal perspective, the other one from a social scientific perspective. While the social scientific paper was already published this year in the HIIG Discussion Paper Series on SSRN (No. 2014 – 03), the legal paper is awaiting its finishing touches and will be released shortly. Meanwhile, in a team effort, Julian Staben and Lennart Ziebarth presented the results on several occasions, including to the committee of petitions of the German Bundestag.

Furthermore a significant part of our research is directly linked or even incorporated into projects of the Network of Centers (NoC), a federation of Internet research centres all over the world. For more information, see below.

A common feature of all our projects is their interdisciplinarity – though vested with a distinct legal context, our work is never narrow in its focus. Stimuli coming from other disciplines are regularly taken into account 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 unattended to. 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, to the conglomerate of centres that eventually developed into the NoC. After a year of mostly finalising and publishing our work, as well as presenting it to a broad audience, we will concentrate again on starting new projects and in depth research on topics within the HIIG framework.

INTERNET POLICY AND GOVERNANCE

The Internet Policy and Governance 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. This theoretical perspective was elaborated in a programmatic discussion paper that understands governance as a heterogeneous and continuous process of ordering: Hofmann/Katzenbach/Gollatz (2014): Between Coordination and Regulation – Conceptualizing Governance in Internet Governance. HIIG Discussion Paper Series No. 2014-04, Berlin. This effort to bring together regulation and governance literature and sociological theory into a productive frame for inquiry has generated resonance both through the paper itself, as well as through presentations at conferences and workshops. In a follow-up paper we will seek to advance this theoretical perspective by accounting for the role of technology, particularly algorithms, in ordering digitally networked environments.

In our lead project Circulation of Cultural Goods the focus in 2014 was on field work. In February, we started an 18-month multi-method case study on the tension between imitation and innovation in the games sector. Given its considerate economic impact and its complex formal IP protection, the digital games sector constitutes an instructive field site for studying the formal and also the informal settings that structure today's digital creative markets. A discourse analysis of contested cases of plagiarism, a document analysis of industry handbooks and semi-structured interviews with professionals in this sector, we have investigated how everyday practices draw the fine line between legitimate inspiration and illicit plagiarism. Preliminary findings suggest a general consensus across the sector that innovation in games lies in re-combining existing elements rather than in producing something radically new. Yet, evaluations and

strategies to operate in the grey zone between inspiration and cloning vary strongly. Whereas indie developers share their ideas and early prototypes in communities with strong shared values of originality, larger studios do not share anything until the formal release of a game in order to protect the commercial value of their ideas. We presented the approach and preliminary findings at key conferences in game studies (DiGRA 2014, Salt Lake City) and interdisciplinary copyright research (ISHTIP 2014, Uppsala). In 2015, we will complete data analysis and will present and discuss the findings at international conferences and workshops, both academic and professional. In order to guarantee follow-up activities in empirical copyright research, we have submitted a joint grant proposal for an international, comparative study with partners in the UK and the Netherlands to a coordinated funding scheme of European national research councils (ORA). We have also initiated a second bid addressing the technological dimension of copyright regulation on Internet platforms.

The project **Freedom of Expression in the Quasi-public Sphere** has strengthened its international networks by contributing to the world-wide comparative project Ranking Digital Rights and to the UNESCO-Report *Fostering Freedom Online: The Role of Internet Intermediaries*. The dissertation project investigating the governance of Internet infrastructure managed to get critical field access and recognition among professionals in the year 2014. The project focuses on the communities of network operators, their practices and values which enable the network of networks. The empirical work is based on 50 interviews with practitioners from more than 20 countries. Our open-access journal on Internet regulation **Internet Policy Review** has initiated cooperations with academic partners (e.g. Centre for Copyright and New Business Models in the Creative Economy, University of Glasgow, UK) and developed the technical platform (e.g. integrating DOI), gradually becoming a relevant publication outlet for issues of Internet regulation across Europe. In 2014, we published 15 research articles and more than 70 news and opinion pieces.

Building on the field work done in 2014, the focus of most projects in 2015 will be on data analysis, the publication of results in relevant journals and stakeholder engagement through workshops and panels.

INTERNET-ENABLED INNOVATION

The research project **Innovation and Entrepreneurship** aims at enhancing our understanding of the aspects that support and hinder the entrepreneurial process of Internet startups. Relevant aspects of the startup process include law, business model innovation (in cooperation with Prof. Oliver Gassmann/University of St. Gallen), finance, sales and human resources. We collect data using a questionnaire and clinic session reports we conducted with more than 110 Internet-enabled early stage startups. We presented findings at Germany's largest Entrepreneurship conference G-Forum in late 2014. Additionally, the team prepared conference papers and currently we are preparing an HIIG discussion paper summarising our key findings. Based on these findings, we expanded our research questions to instruments of collaboration with

startups, thereby focusing on accelerator programmes. In addition, we established connections with other international researchers, specifically from ECU in Perth/Western Australia. We carried out more than 20 interviews in Berlin, Perth, Sydney, Santiago de Chile with actors in the startup ecosystem (e.g. accelerators, startups, companies). The initial findings were presented at an innovation conference in Australia and we have been invited to present at conferences in the USA and Europe later this year. Furthermore, we aim to use existing data and frame it with a realist approach, which will explain outcomes of interventions in the field of entrepreneurship, such as changes in the behaviour of founders. In our TopMOOC project, supported by an additional Google research grant, we examined the production and use of video as an instructional medium in online learning. The project strengthens our relationship with colleagues at the MIT Media Lab, which hosted our researchers and gave substantial input. Moreover, we were invited to present our research results at a researchers conference hosted by Google Asia in Shanghai. In a paper, we present the key considerations raised by MOOC practitioners covering the areas of the appropriate use of video, how production values relate to learning success, the value of different video styles, and obstacles to standardising the production process of MOOCs. The results will be integrated in our entrepreneurship education platform, the Knowledge Base.

In the project Open Science, we survey the latest developments in scientific research, academia – industry relations as well as science communication. As part of our research activities in 2014, we published the articles *Putting open science into practice: A social dilemma?* (Journal First Monday), *Opening science: towards an agenda of open science in academia and industry* (Journal of Technology Transfer) and the research article *What Drives Academic Data Sharing?* that has been accepted for publication in PLoS ONE. In 2014, we conducted a survey on academic data sharing among 1650 academic researchers in Germany. The survey is part of the Leibniz 2.0 research association and a joint research project with our close partners, the German Institute of Economic Research (DIW) and the German National Library of Economics (ZBW). It gives empirical insights about data archiving and publication practices as well as data withholding strategies across all disciplines. The first results from the survey have been published in the DIW discussion paper series and will be presented at 3 international conferences on research policy and data infrastructure in 2015. It is one of our main objectives in 2015 to publish further results from the survey in high impact journals and present at key conferences. As a result of this research project, one of our researchers won a EU-fellowship for research on digital research infrastructure for the arts and humanities (DARIAH). In addition to our article publications, we gave talks, participated in discussion panels and presented at key conferences on the topic of science and technology and research policy. We host an annual conference track on Internet & Society research at the General Online Research conference and organised a 1-day conference on Open Access together with DeGruyter and ScienceOpen during the Open Access Week 2014. In accordance with our aim to use alternative ways of scholarly communication, we blog on our institute's website and the London School of Economics Impact blog on current topics in science and technology studies. In 2015, we aim to widen the scope of our research. Therefore, we applied for research funding at the Federal Ministry of Education and Research for a project on citizen science together with the German Institute of Economic Research. Further we aim to

strengthen the interdisciplinary collaboration with other research areas at the institute as well as stakeholder from academia, civil society and industry as part of the new research programme 'The knowledge dimension: What are emerging patterns of research and knowledge transfer in the digital age?'.

Furthermore, we published the study *Online Mitmachen und Entscheiden – Partizipationsstudie 2014* that was jointly worked on with TNS Infratest. The **»dwerft« project** officially started, a BMBF founded research project that aims at exploring the challenges digitalisation brings to the movie industry. The project is conducted by eleven institutions, with the HIIG perspective being to better understand the societal changes new trends in movie making are creating and to better understand the underlying business models.

GLOBAL CONSTITUTIONALISM AND THE INTERNET

Triggered by the Snowden revelations the **KORSE** project – a scientific endeavour supported by the German Federal Ministry for Education and Research – together with the Walter Hallstein-Institut für Europäisches Verfassungsrecht and the stiftung neue verantwortung's privacy project – organised a series of workshops, plus a concluding conference on the protection of privacy and data in times of big data, state surveillance and digital globalisation. The main focus was on the strained relationship between state surveillance and fundamental rights, at the national, European and international level, preparing the grounds for possible solutions. Three workshops brought together relevant practitioners, politicians and (legal) scholars. The overall idea was that Germany can only take a stand for improved legal standards and a higher level of fundamental rights protection in an internationally credible way once it has "put its own house in order".

We have learned that the legal bases for and control of intelligence activities in Germany were set at a time when many (technical) developments were not even in sight. Most relevant laws (Verfassungsschutzgesetz, BND-Gesetz and G10-Gesetz) were enacted in 1990/2001, with revision in 2013. Mass surveillance is not covered. There remains a lack of clarity about how services, particularly the Federal Intelligence Service (BND), have to understand and execute their very broad powers. In the absence of powerful and efficient parliamentary and court control there is still room for reform. Regarding Internet surveillance and Human Rights in Europe the discussion evolved around the finding that there exists no legal basis allowing German intelligence services to carry out strategic intelligence gathering outside (and without connection to) the German territory. And yet, the binding effect of the Grundgesetz (German Constitution) – and the Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR) for all European intelligence services – proved to be an intensely and controversially debated topic. Our discussion on intelligence services' surveillance practice of monitoring telecommunications and the acquisition of data by directly compelling private companies to cooperate revealed, again, a lack of transparency and supervision. As there seems to be no clear rules for private companies as to whether and what they can report – or refuse to report – in response to governmental data requests, further research is needed to allow us to compare the German situation with practices

by the US. Our first findings were confirmed at a conference organised with a view to share the workshops' findings and remaining issues with a broad professional public. It included a fourth perspective discussed previously in a special preparatory workshop organised together with the Federal Foreign Office – the question of whether there is, or should be, a public international law of the Internet (Völkerrecht des Netzes), and if so, how this should be designed. An article on these questions has been accepted for publication. The series of events was an important element of our research on "global privacy governance"; the dialogue on mass surveillance shall take on a transatlantic dimension in 2015/16.

Preliminary insights from the project **The Digital Public Administration** confirm the thesis that an administrative re-integration – or New Public Management reversal – is taking place within the public administration not only in the industrialised world, but also in several emerging economies from the global south. The research project **Orphan Works within »dwerft«** analyses the legal framework for the use of orphan cinematographic works on a comparative basis, focusing on Europe and the US in particular. It found that the new European directive for orphan works is not well suited for film works, and seeks to develop alternative approaches where possible, taking into consideration the role of fundamental rights, with particular regard for the tensions between the protection of intellectual property rights and easier access to knowledge and culture worldwide. The PhD project **Digital Civil Disobedience** aims to re-think the political concept of civil disobedience against the backdrop of its transformation through digital technologies. After developing a theoretical framework, the next step is the focus on the analysis of digital practices and their political implications. One achievement of the project is a new approach to civil disobedience that reflects it as a transforming performative act. The **Global Privacy Governance** project's preliminary insights show that interdisciplinary understanding and the diffusion of ideas, debates and solutions between different privacy governance forms are especially hampered by taking categorically different starting points for their analyses either social relationships or technical systems. Two research proposals (Anonymität im Netz and Privatheit als Verhandlungssache) have been submitted in which we endeavour to find arrangements and processes for addressing this problem.

NETWORK OF CENTERS

For the Network of Centers 2014 was a year characterised by moving from exchange of knowledge and views to the collaborative creation of knowledge in joint research project. There have also been major organisational changes, as well as developments regarding research and content. Since October 2014 the HIIG handed over the Network's organisational management to the Nexa Center for Internet & Society in Turin, which will lead the NoC until the end of 2015. It is thus also responsible for the NoC' public appearances, as well as the programmatic orientation.

Under the HIIG's management the activities of the NoC entered a new level and the first collaborative research projects were initiated. Also, in 2014, the first results of the NoC's joint research were published and first impacts were observed. The two main research projects, being **Internet Governance** and **Intermediary Liability**, have both advanced rapidly in the last 12 months. Both projects serve as test cases to demonstrate the networks potential to leverage the capacity of the individual centres and especially by supporting comparative research.

The **Internet Governance** project aims at providing a better understanding of both, how multi-stakeholder governance groups operate in different countries, as well as how they best achieve their goals. So far it has seen multiple publications: All country case studies were published separately on Publixphere including a case study by Jeanette Hofmann, Christian Katzenbach, and Kirsten Gollatz: Hofmann/Katzenbach/Gollatz: Between Coordination and Regulation: Conceptualizing Governance in Internet Governance, HIIG Discussion Paper Series (No. 2014 – 4); and a study by HIIG's Markus Oermann and Nils Töllner of the Hans Bredow Institute: Oermann/Töllner: The Evolution of Governance Structure in Cryptocurrencies and the Emergence of Code-Based Arbitration in Bitcoin, Berkman Center Research Publication No. 2015 – 1. An accompanying synthesis paper on Multistakeholder as Governance Groups: Observations from Case Studies was published online, giving an overview over the results and impacts.

The work on the **Online Intermediaries** project is still in progress. This project focuses on the governance of online intermediaries in different legislatures. Results have been published by Gasser/ Schulz on Governance of Online Intermediaries: Observations from a Series of National Case Studies, February 2015 (SSRN). As a final output, the project aims at publishing good practice recommendations on how to treat intermediaries to make sure, they can still fulfill their role as one of the backbones of the Internet. Several case studies have been conducted under this joint research effort. A synthesis paper written by Urs Gasser and Wolfgang Schulz tries to identify patterns and governance modes. It has however, already found its way into the judicative process. Results of the study have been used in a case being heard by the Supreme Court of India in an ongoing litigation involving intermediary liability.

There have also been a number of events hosted or attended by NoC members; notably the symposium on **International Regulatory Trends on Personal Data Protection** in Santiago de Chile

in November. The event, hosted by the Center of Studies in Informatics Law, brought together researchers and companies from all over the world and focused on finding new ways of tackling the challenges of data protection.

PROMOTING UP-AND-COMING RESEARCHERS

In 2012, the HIIG implemented a doctoral programme to promote young 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 the HIIG's Internet & Entrepreneurship Team to earn their doctorate working in the area of the Startup Clinics. Currently, there are 21 doctoral students at the HIIG. The first graduates are expected in 2015.

All doctoral students are given the opportunity to organise workshops concerning their own topics of interest and to attract (international) researchers to the HIIG to discuss these topics. In 2014, there were events such as a workshop on Civil Disobedience Beyond the State, several open HIIG-Clubs or the Early Stage Researchers Colloquium (more details to be found in the events section).

Many of the HIIG's doctoral students take advantage of the opportunity to participate in training sessions and workshops at Berlin's universities or graduate centres. Since academic events concerning the specific knowledge of methods for Internet research are not part of the usual offers of graduate schools, it is not exactly easy to find lectures in these areas. Also, offers are often not tailored to the needs of the HIIG's doctoral students, it is necessary to organise many of them as in-house events. The planning of the workshops is often done in cooperation with the doctoral students and has so far included:

- The Internet for non-computer scientists
- Academic writing in English (based on the most common mistakes)
- Network Analysis
- Netnography
- Surveys
- Software Based Data Collection
- Hands-on Stata (based on a current research project at the HIIG)
- Media trainings

The strong integration and networking activities of the HIIG's doctoral students with the scientific community should also be highlighted: The past year was characterised by several invi-

tations to national and international academic events, paper presentations and publications. A selection:

- Fecher Benedikt: Lecture 'Leibniz Science 2.0. Sharing Research Data in Academia. First Survey Results' @ Conference: Research Data Alliance Europe. Organised by RDA Europe. Helmholtz-Zentrum Potsdam Deutsches GeoForschungsZentrum, Potsdam, Germany: 21.11.2014
- Uta Meier-Hahn: Lecture 'The social side of Internet interconnection' @ Conference: European Peering Forum 2014. Organised by AMSIX, DECIX, LINX, netnod. Split, Kroatien, 23.09.2014
- Robin P. G. Tech: 'Open Source Hardware Business Models' @ Conference: SASE conference. University of Chicago, Chicago, USA, 12.07.2014
- Maximilian von Grafenstein: Lecture 'Exploring service delivery' @ Conference: iLINC Conference Queen's University, Amsterdam, 01.11.2014
- Hannfried Leisterer, Emma Peters: Lecture 'Veröffentlichung von IT-Sicherheitslücken' @ 4. Forum Europäische Sicherheit Deutsche Hochschule der Polizei, Münster, 21.11.2014
- Kaja Scheliga: Lecture 'The social dilemma of putting the idea of open science into practice' @ Conference: General Online Research Conference. Cologne University of Applied Sciences, Köln
- Anett Göritz: Presentation 'Watching Television in The Future and New Distribution Models' @ Conference: ECREA – 5th European Communication Conference, Lisbon, Portugal: 15.11.2014

Due to the expected upcoming graduations, there will be two important new tasks for the year 2015; the establishment of an alumni-programme and a new phase of openings and applications to recruit new candidates for the doctoral programme.

FELLOW PROGRAMME

The Summer Fellow Programme, which was successfully carried out in 2013, was continued in an updated form in 2014. During the application phase of 2014/15, the fellows were able to choose the time frame of their stay quite flexibly – which served to even out the number of visiting scholars over time, as well as cover a longer period with external members. In total, we had 31 applicants from 16 countries, of which a total of four fellows (from Turkey, Italy, Germany and Austria) passed the multi-stage selection procedure. We were able to find a fellow for each of the HIIG's research areas for the period from June 2014 to March 2015. As every fellow was assigned a research partner, they were much better integrated in the research areas and were thus able to further the exchange. In addition, special care was taken to select fellows who had already reached an advanced stage within their doctoral studies, so that both the guests and the hosts could benefit from the collaboration even more.

In the course of the programme, the Institute offered several opportunities to present findings to the institute's HIIG researchers team, to organise workshops, to write blog posts, and to work on articles with HIIG researchers alongside the individual doctoral projects. All in all, the

programme phase of 2014/15 turned out to be very profitable – both for the fellows and for the Institute: Apart from the active cooperation, it was also possible to attract qualified young researchers as alumni of the HIIG. Now, the challenge for the upcoming openings period is to be seen in a consolidation of these experiences, in order to ensure that the programme will continue successfully in 2015. Further information on the structure of the current programme phase can be found at www.hiig.de/research-stay-hiig.

TRANSFER OF RESEARCH THROUGH EVENTS, COMMUNICATION AND PLATFORMS

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

Therefore, the Institute strives to open up its scientific work and the research results for questions from these target groups – for instance, by developing our own platforms and sources of information, but also by means of different kinds of events. In 2014, we continued our existing event series and offered numerous specialist workshops, increasingly focusing on our own research findings. The following selection reflects the range of different formats and topics:

- Berlin Open Access Week: Generation Open (Berlin, October, ~40 pax)
- Civil Disobedience Beyond the State (Amsterdam Ma,, ~30 pax)
- Early Stage Researchers Colloquium 2014 on the subject: "Pay per pixel" and "Private Information – Open Debates" (annual colloquium on the exchange and networking between young researchers in the field of Internet and Society, Berlin, October, ~ 60 pax)
- Internet Governance. Actors, Technology, Content (Berlin, October, ~80 pax)
- Open HIIG Club with Luciano Floridi (the HIIG Club is a weekly literature review for junior HIIG-researchers, open to interested members of the research community and a presentation platform for visiting scientists; Berlin, October, ~25 pax)
- Privacy and Data Protection in Times of Big Data, State Surveillance and Digital Globalisation (Berlin, December, ~200 pax)
- Startup Clinics Talks on HR Challenges (Berlin, April ~50 pax)

Thanks to funding by the BMBF within the scope of the Year of Science 2014 (which focused on the digital society), we were able to produce several radio shows named 'Digitaler Salon Spezial' in collaboration with DRadio Wissen (a monthly radio talk, to be heard throughout Germany – including live stream, produced at the Institute with 40 – 100 on-site participants).

- Paducation. Digitales Lernen für eine digitale Welt? (EUREF-Campus) SPEZIAL (Paducation. Digital learning for a digital world?)

- Krisenberichterstattung in sozialen Netzwerken (Crisis reporting on social networks)
- Von kommunikativen Kühlschränken und selbstfahrenden Autos. Ist das Internet der Dinge mehr als eine Vision? (orangeLab) SPEZIAL (Communicative refrigerators and even cars. Is the Internet of things more than a vision?)
- WiFi Hotspot Serengeti. Entwicklungshilfe mittels Internet? (WiFi Hotspot Serengeti. Development assistance via the Internet?)
- Dr. Bing & Dr. Google. Suchen wir uns krank? (Dr. Bing & Dr. Google. Are we searching ourselves until we drop?)
- Online-Partizipation. Von Machern, Mitläufern und Motivierten. (Umweltforum) SPEZIAL (Online Participation – Creators, Hangers-on and Motivators)
- Wearables. Fit und schlank dank Smartwatch (Wearables. Fit and slim thanks to Smart Watches)
- Kräftemessen zwischen Freiheit und Kontrolle (The struggle between freedom and control)
- Hacktivism. Von Punk zu Pop? (Hacktivism. From Punk to Pop?)
- Digitaler Salon: Error 404 für das Internet? Wer sucht das Netz im Verkehrsministerium? (Error 404 for the Internet? Who's searching for the net in the Ministry of Transport?)
- Kino unchained. Neue Konsumwege für ein altes Medium? (Cinema unchained. New channels for an old medium?)

In addition to the numerous cooperatively-organised events in 2014, we established various press-collaborations over the course of the year, for example concerning the publication of research findings (advance publication rights) and jointly planned series, e.g. to present the various Startup Clinics. These partnerships serve to spread our scientific results and to draw attention to their accessibility. This helps to establish the Institute as a source of information and a platform for transdisciplinary and practical Internet research in Germany.

In addition to these networking activities, we are working on various academic information platforms and communication tools – including, in particular:

Internet Policy Review: An online platform for the purpose of presenting, discussing and commenting on international developments, as well as issues of Internet regulation. So far, 63 authors and journalists have contributed to the IPR. In 2014, the IPR had 36,000 visitors and an output of 83 publications (research papers, news articles and op-eds).

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 (1226 news articles/posts since 2013, as of Jan. 2015).

Startup Clinics Knowledge Base: a video platform where experts and founders share their know-how in short Q&A videos based on frequently asked questions during the Startup Clinics Session (more than 50 videos, as of Jan. 2015).

HIIG website and blogs by our doctoral students: While the site is used to provide information regarding the Institute and to announce current events (daily average of visits = 162), the doctoral students and researchers regularly provide information on the progress of their academic work in the HIIG blog, helping to shape it as a tool to put up scientific results for discussion at an early stage. (66 blog posts in 2014, highest coverage with 2416 readers: "How Love Steaks almost changed the German film industry" by Urs Kind).

Social Media activities: regular updates via social networks, alongside the other forms of communication. Results (as of January 15, 2015):

- Facebook: 1763 likes (2013: 1463)
- Twitter: 2094 followers (2013: 1152)
- Google+: 245 connected (2013: 383)
- Newsletter HIIG Quarterly (worldwide): 2339 subscribers

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 Scientific 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.205
Promoting up-and-coming researchers M.211
A German node of an international network in the research area of the Internet and society M.213
Interaction with politics, the civil society and the economy regarding questions on Internet and society M.214
Securing and developing the institute's work M.218

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)

SUBMISSION DATE	TITLE/SUBMITTED AT	PARTNER	APPLICANTS
01.01.2014	Verwaiste Werke – eine interdisziplinäre und vergleichende Untersuchung Submitted at: Humboldt-Universität zu Berlin (declined)	Prof. Dr. Katharina de la Durantaye (HU Berlin)	Ingolf Pernice, Rike Maier
19.03.2014	Special broadcast 'Digitaler Salon Submitted at: BMBF (confirmed)	DRadio Wissen, Kooperative Berlin	Karina Preiß, Larissa Wunderlich
07.08.2014	Anonymität und Identifizierbarkeit im Netz: Eine interdisziplinäre Untersuchung Submitted at: DFG (submitted)	Prof. Dr. Björn Scheuermann (Institut für Informatik, HU Berlin), Prof. Dr. Benjamin Fabian (Wirtschaftswissenschaftliche Fakultät, HU Berlin)	Ingolf Pernice, Björn Scheuermann, Jeanette Hofmann, Benjamin Fabian
15.10.2014	Developing Incentive Systems for Peer Learning to Increase Crowd Engagement on the Knowledge Base for Entrepreneurs Submitted at: google faculty research award (confirmed 2015)	—	Thomas Schildhauer, Christopher Newmann, Anna Hansch
22.10.2014	Bürgerwissenschaft jenseits der Wirksamkeitslücke Submitted at: DIW (declined)	Prof. Dr. Gert Wagner (DIW), Prof. Dr. Jürgen Schupp (DIW)	Sascha Friesike, Benedikt Fecher
23.10.2014	Digitale Medien im Projektmanagement Submitted at: Bauhaus Universität Weimar (submitted)	Prof. Dr. Anke Trommershausen (Universität Weimar)	Thomas Schildhauer, Nancy Richter

2. Publications

Highly recognised discipline-based journal

JOURNAL	PUBLICATION
International Journal of Communication	Puschmann, C. & Burgess, J. (2014). Metaphors of big data. International Journal of Communication, 8, 1690 – 1709.
New Media & Society	Ziewitz, M. & Pentzold, C. (2014). In Search of Internet Governance: Performing Order in Digitally Networked Environments. New Media & Society, 16(2), 306 – 322.

Transdisciplinary journal publications

JOURNAL	PUBLICATION
Nova Acta Leopoldina	Gollatz, K. (2014). Online Free expression in the Corporate Realm: Corporations' Policies and Practices Shaping Private Speech on Communication Platforms. Nova Acta Leopoldina, NF 119(403), 49 – 55.
Aus Politik und Zeitgeschichte (APuZ)	Pentzold, C., Katzenbach, C., & Fraas, C. (2014). Digitale Plattformen und Öffentlichkeiten mediatisierter politischer Kommunikation. Aus Politik und Zeitgeschichte (APuZ), 14(22 – 23), 28 – 34.
Media, Culture & Society	Pentzold, C. & Lohmeier, C. (2014). Digital Media – Social Memory. Media, Culture & Society, 36(6), 745 – 809.
First Monday	Scheliga, K. & Friesike, S. (2014). Putting open science into practice: A social dilemma? First Monday, Volume 19(9).
GMS Medizin – Bibliothek – Information	Scheliga, K. (2014). Opening Science: New publication forms in science. GMS Medizin – Bibliothek – Information, 14(3).
New Media & Society	Ziewitz, M. & Pentzold, C. (2014). In Search of Internet Governance: Performing Order in Digitally Networked Environments. New Media & Society, 16(2), 306 – 322.

Open access journal publications

JOURNAL	PUBLICATION
The Journal of Technology Transfer	Friesike, S., Widenmayer, B., Grassmann O., Schildhauer, T. (2014). Opening science: towards an agenda of open science in academia and industry. The Journal of Technology Transfer(November 2014).
Aus Politik und Zeitgeschichte (APuZ)	Pentzold, C., Katzenbach, C., & Fraas, C. (2014). Digitale Plattformen und Öffentlichkeiten mediatisierter politischer Kommunikation. Aus Politik und Zeitgeschichte (APuZ), 14(22 – 23), 28 – 34.
International Journal of Communication	Puschmann, C. & Burgess, J. (2014). Metaphors of big data. International Journal of Communication, 8, 1690 – 1709.
Journal of Science Communication	Puschmann C., Mahrt M. (2014). Science blogging: An exploratory study of motives, styles, and audience reactions. Journal of Science Communication, 13(3).
Homo Ludens	Roessel, L. van & Herweg, S. (2014). Van Pong tot Ridiculous Fishing: Over imitatie en innovatie binnen de gamesector. Homo Ludens, 2014, 1 – 6.
PolitiKa	Saldías, O. (2014). Unleashing the Potential of Smart Bureaucracies for our Intelligent Cities. PolitiKa(1).
First Monday	Scheliga, K. & Friesike, S. (2014). Putting open science into practice: A social dilemma? First Monday, Volume 19(9).
GMS Medizin – Bibliothek – Information	Scheliga, K. (2014). Opening Science: New publication forms in science. GMS Medizin – Bibliothek – Information, 14(3).

Peer-reviewed journal publications and conference contributions

JOURNAL	PUBLICATION
Personal and Ubiquitous Computing	Bentley, F., Cramer, H., & Müller, J. (2014). Beyond the bar: the places where location-based services are used in the city. Personal and Ubiquitous Computing, 1, 1 – 7.
International Conference on Infrastructures and Cooperation in e-Science and e-Humanities	Fecher, B. & Friesike, S. (2014). Sharing Data in Academia. International Conference on Infrastructures and Cooperation in e-Science and e-Humanities.
The Journal of Technology Transfer	Friesike, S., Widenmayer, B., Grassmann O., Schildhauer, T. (2014). Opening science: towards an agenda of open science in academia and industry. The Journal of Technology Transfer(November 2014).
Computer und Recht (CR)	Leisterer, H., Schneider, F. (2014). Privat: Der überarbeitete Entwurf für ein IT-Sicherheitsgesetz – Überblick und Problemfelder. Computer und Recht (CR), CR 2014(9), 574 – 578.
Media, Culture & Society	Lohmeier, C. & Pentzold, C. (2014). Making Mediated Memory Work. Cuban-Americans, Miami Media and the Doings of Diaspora Memories. Media, Culture & Society.
Media, Culture & Society	Pentzold, C. & Lohmeier, C. (2014). Digital Media – Social Memory. Media, Culture & Society, 36(6), 745 – 809.
International Journal of Communication	Puschmann, C. & Burgess, J. (2014). Metaphors of big data. International Journal of Communication, 8, 1690 – 1709.
Internet Policy Review – Journal on internet regulation	Puschmann C., Bozdag E. (2014). Staking out the unclear ethical terrain of online social experiments. Internet Policy Review – Journal on internet regulation, 3(4).
Journal of Science Communication	Puschmann C., Mahrt M. (2014). Science blogging: An exploratory study of motives, styles, and audience reactions. Journal of Science Communication, 13(3).
First Monday	Scheliga, K. & Friesike, S. (2014). Putting open science into practice: A social dilemma? First Monday, Volume 19(9).
New Media & Society	Ziewitz, M. & Pentzold, C. (2014). In Search of Internet Governance: Performing Order in Digitally Networked Environments. New Media & Society, 16(2), 306 – 322.

Chapters in edited volumes

Please see full publications list on pp. 182 – 187.

Books

Please see full publications list on pp. 182 – 187.

Production and downloads of the HIIG paper series

Al-Ani, A., Stumpp, S., & Schildhauer, T. (2014). Crowd-Studie 2014 – Die Crowd als Partner der deutschen Wirtschaft. HIIG Discussion Paper Series, 2014(02).

Hofmann, J., Katzenbach, C., & Gollatz, K. (2014). Between Coordination and Regulation: Conceptualizing Governance in Internet Governance. HIIG Discussion Paper Series, 2014(04).

Oermann, M., Lose, M., Schmidt, J.-H. & Johnsen, K. (2014). Approaching Social Media Governance. HIIG Discussion Paper Series, 2014(05).

Saldías, O. (2014). Privat: Coded for Export! The Contextual Dimension of the Brazilian Framework for Internet Law & Policy. HIIG Discussion Paper Series, 2014(06).

Send, H., Friesike, S., Ebert, J., Gollatz, K. & Schildhauer, T. (2014). Online Participation and Decision-Making. HIIG Discussion Paper Series, 2014(07).

Send, H., Friesike, S., & Zuch, A. N. (2014). Participation in On-Line Co-Creation: Assessment and Review of Motivations. HIIG Discussion Paper Series, 2014(01).

Schmidt, J. & Johnsen, K. (2014). On the Use of the E-Petition Platform of the German Bundestag. HIIG Discussion Paper Series, 2014(03).

3. Academic lectures and panels

Selected competitive/peer reviewed conference presentations

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: Von Kommunikationspolitik zu Media Governance Revisited: Skizze einer kommunikationswissenschaftlichen Governance-Perspektive in der digitalen Gesellschaft	Kommunikationspolitik und Medienregulierung in der digitalen Gesellschaft. Organised by DGPuK und DPW. Heinrich-Böll-Stiftung, Berlin, Germany: 07.02.2014	Christian Katzenbach
Lecture/Talk: Terms & Conditions – it's ze law, stupid! Taking practical suggestions from German Constitutional Law	RightsCon Silicon Valley. Organised by access. Mission Bay Conference Center, San Francisco, USA: 03.03.2014	Kirsten Gollatz, Julian Staben
Lecture/Talk: The social dilemma of putting the idea of open science into practice	General Online Research Conference. Organised by German Society for Online Research (DGOF). Cologne University of Applied Sciences, Cologne, Germany: 06.03.2014	Kaja Scheliga
Lecture/Talk: Liaisons Dangereuses – Netzpolitik und geistige Eigentumsansprüche	Jahrestagung 2014 der DVPW Sektion Policy-Analyse und Verwaltungswissenschaft (Session: Die Entstehung des Politikfelds Netzpolitik). Organised by DVPW Sektion Policy-Analyse und Verwaltungs-wissenschaft. Universität Bremen, Bremen, Germany: 18.03.2014	Jeanette Hofmann, Sebastian Haunss
Lecture/Talk: Surveil Your Citizens While You Surveil Mine – Selected (Global) Constitutional Thoughts on the Chiasmus in International IT Surveillance	The 6th Biannual Surveillance & Society Conference (Session: States & Governments). Organised by Surveillance Study Network. University of Barcelona, Barcelona, Spain: 25.04.2014	Julian Staben, Hannfried Leisterer
Lecture/Talk: Organisation as process and management research: appreciative inquiry in project based work	International Congress of Qualitative Inquiry. Organised by University of Illinois. University of Illinois, Illinois, United States of America: 21.05.2014	Nancy Richter, Anke Tommershausen
Lecture/Talk: Doing Mediated Memories Memory Work and the Practices of Cuban-American Remembrance	International Communication Association (ICA) Annual Conference. Organised by International Communication Association. Sheraton Seattle Hotel, Seattle, United States of America: 23.05.2014	Christian Pentzold, Christine Lohmeier
Lecture/Talk: Framing big data: Methode und Ergebnisse einer multimodalen, transmedialen Diskursanalyse der Handygate-Affäre 2011	DGPuK Jahrestagung. Organised by DGPuK. Universität Passau, Passau, Germany: 29.05.2014	Christian Pentzold, Claudia Fraas
Lecture/Talk: Crowdfunding for Hardware Startups	ECIS conference. David Intercontinental Hotel, Tel Aviv, Israel: 09.06.2014	Robin P. G. Tech
Lecture/Talk: Stabilizing and Contesting the Instable through Discourse: Attributions of Imitation and Innovation in the Digital Games Sector	ISHTIP Workshop 2014. Organised by International Society for the History and Theory of Intellectual Property (ISHTIP). Uppsala University, Uppsala, Sweden: 03.07.2014	Sarah Herweg, Christian Katzenbach
Lecture/Talk: Open Source Hardware Business Models	SASE conference. University of Chicago, Chicago, United States of America: 12.07.2014	Robin P. G. Tech

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: Negotiating the Boundaries of Game Imitation: From Pong to Ridiculous Fishing	Annual Conference: DiGRA 2014. Organised by DiGRA / The University of Utah. Snowbird, Utah, USA: 06.08.2014	Sarah Herweg, Christian Katzenbach, Lies van Roessel
Lecture/Talk: Space for creativity in management education	7th International Art of Management and Organization Conference. Copenhagen Business School, Copenhagen, Denmark: 28.08.2014	Nancy Richter
Lecture/Talk: Between Coordination and Regulation: Conceptualizing Governance in Internet Governance	GigaNet 9th Annual Symposium (Session: THEORETICAL SESSION: Conceptualizing Internet governance). Organised by The Global Internet Governance Academic Network (GigaNet). Lütfi Kırdar Convention and Exhibition Center, Istanbul, Turkey: 01.09.2014	Jeanette Hofmann, Christian, Katzenbach, Kirsten Gollatz
Lecture/Talk: ‚What are these researchers doing in my Wikipedia?': Forschungsethische Axiome und forschungspraktische Kompromisse teilnehmenden Beobachtens in digital vernetzten Umgebungen	Jahrestagung der DGPuK-Fachgruppe Computervermittelte Kommunikation. Organised by Deutsche Gesellschaft für Publizistik und Kommunikationswissenschaft e.V. Universität Wien, Vienna, Austria: 09.11.2014	Christian Pentzold
Lecture/Talk: Watching Television in the Future and New Distribution Models	ECREA – 5th European Communication Conference (Session: Parallel Session 9 – 17. Television Studies – TV and Innovation). Organised by School of Communication, Arts and Information Technologies (ECATI) at Universidade Lusófona de Humanidades e Tecnologias. Lisbon Congress Centre (CCL), Lisbon, Portugal: 15.11.2014	Anett Göritz, Lothar Mikos

Selected invitations to academic lectures and panels

EVENT ACTIVITY	EVENT	RESEARCHER
International scope		
Panel: Unpacking the Intermediary Liability Debate in India	Conference: Symposium: Internet and Human Rights in India. India International Centre Annexe, New Delhi, India: 17.01.2014	Wolfgang Schulz
Lecture/Talk: The social dilemma of putting the idea of open science into practice	Science 2.0 Conference. Organised by Leibniz Research Alliance Science 2.0. Riverside, Hamburg, Germany: 26.03.2014	Kaja Scheliga
Lecture/Talk: Between Abundance and Austerity: Academic Work in Times of Data Mining?	Crossing Borders – The Future of Access: International Conference at the German National Library. Deutsche Nationalbibliothek, Frankfurt am Main, Germany: 08.04.2014	Jeanette Hofmann
Session lead/Workshop moderation: Identifying gaps and increasing collaboration among Academics in the field of Internet Governance	Conference: Multi-Stakeholder Internet Governance Models, Mechanisms and Issues. Organised by FGV Law School Rio de Janeiro, FGV Law School São Paulo. FGV Law School, São Paulo, Brazil: 25.04.2014	Wolfgang Schulz
Session lead/Workshop moderation: Multistakeholder Internet Governance	Conference: Events Series on the Distributed, Collaborative Internet Governance Ecosystem: Moving towards a Collaborative Internet Governance Ecosystem: Contributions by the Academic Community and Next Steps. Organised by ICT Law Institute, Bilgi University. Bilgi University, Istanbul, Turkey: 22.05.2014	Wolfgang Schulz
Lecture/Talk: Internet Governance: Struggle over transnational authority	The Next Five Years of Electronic Communications Regulation. European University Institute, Florence, Italy: 04.07.2014	Jeanette Hofmann
Lecture/Talk: The Transnational Dimension of Marco Civil da Internet	Marco Civil da Internet: Direito, Inovação e Tecnologia (Session: Marco Civil da Internet: Direito, Inovação e Tecnologia). Instituto Brasiliense de Direito Público, Brasilia, Brazil: 10.07.2014	Osvaldo Saldías
Lecture/Talk: Online Intermediaries	Online Intermediaries. Organised by Institute for Advanced Study, Harvard University. Institute for Advanced Study, Harvard University, Cambridge, USA: 07.08.2014	Wolfgang Schulz
Lecture/Talk: Business Model Development of Startups	Research Camp. Organised by Institute of Technology Management. Institute of Technology Management, University of St. Gallen, St. Gallen, Switzerland: 26.08.2014	Martina Dopfer

EVENT ACTIVITY	EVENT	RESEARCHER
Keynote: A short story on how governance came about	Internet Governance. Actors, Technology, Content. Organised by Humboldt Institut für Internet und Gesellschaft. Humboldt-Universität zu Berlin, Berlin, Germany: 10.10.2014	Jeanette Hofmann
Lecture/Talk: Massive!Open! Online!Courses! (MOOC)	Entrepreneurship Summit. Organised by Stiftung Entrepreneurship. Henry-Ford-Bau, Berlin, Germany: 12.10.2014	Anna Hansch
Lecture/Talk: Financing Strategies for Hardware Startups	Relate 280 – Hardware Innovation. Humboldt Institut für Internet und Gesellschaft, Berlin, Germany: 14.11.2014	Robin P. G. Tech
Lecture/Talk: Leibniz Science 2.0. Sharing Research Data in Academia. First Survey Results	Research Data Alliance Europe. Organised by RDA Europe. Helmholtz-Zentrum Potsdam Deutsches GeoForschungsZentrum, Potsdam, Germany: 21.11.2014	Benedikt Fecher
National scope		
Lecture/Talk: Medienrecht und Medienentwicklung	Medien zwischen Markt und Staat – Hamburger Gespräche zur Transformation der Medienkultur. Organised by University of Hamburg. Universität Hamburg, Hamburg, Germany: 06.01.2014	Wolfgang Schulz
Lecture/Talk: Regulierungsebenen des Vergessens im Internet	Recht auf Vergessen. Organised by University of Hamburg. University of Hamburg, Hamburg, Germany: 16.01.2014	Wolfgang Schulz
Lecture/Talk: Global Constitutionalism and the Internet	Festkolloquium zur 100-Jahrfeier der juristischen Fakultät der Goethe-Universität Frankfurt. Organised by Goethe-Universität Frankfurt am Main, Law Faculty. Goethe-Universität Frankfurt am Main, Frankfurt a.M, Germany: 12.06.2014	Ingolf Pernice
Session lead/Workshop moderation: Zukunft Wirtschaft und Industrie	Conference: Die Zukunft der Digitalen Gesellschaft. Organised by Gesellschaft für Informatik. Gesellschaft für Informatik, Berlin, Germany: 15.09.2014	Thomas Schildhauer
Lecture/Talk: Neue Publikationsformen in der Wissenschaft	AGMB-Jahrestagung 2014 (Session: Session 6). Organised by Arbeitsgemeinschaft für Medizinisches Bibliothekswesen e.V. Arbeitsgemeinschaft für medizinisches Bibliothekswesen, Mannheim, Germany: 24.09.2014	Kaja Scheliga
Lecture/Talk: Internet Governance: Theoretische und empirische Annäherungen an einen schwer fassbaren Gegenstand	Wer regiert das Internet? Regulierungsstrukturen und -Prozesse im virtuellen Raum. Ringvorlesung. Organised by Netzpolitik AG der Universität Heidelberg. Universität Heidelberg, Heidelberg, Germany: 06.11.2014	Jeanette Hofmann
Lecture/Talk: Open Science – Herausforderungen für die medizinische Forschung	Kompetenznetz Asthma und COPD. Organised by Phillips-Universität. Phillipps-Universität, Marburg, Germany: 14.11.2014	Sascha Friesike, Sönke Bartling
Lecture/Talk: Multi-Stakeholder Semantik in Internet Governance: Akteursformation und Möglichkeitsraum	Jahreskonferenz des Exzellenzclusters 'Die Herausbildung Normativer Ordnungen' (Session: Herausforderungen der Normativität im Internet). Organised by Exzellenzcluster 'Die Herausbildung Normativer Ordnungen' der Universität Frankfurt. Universität Frankfurt, Frankfurt am Main, Germany: 21.11.2014	Jeanette Hofmann
Lecture/Talk: Strafverfolgungsbehördlicher Zugriff auf elektronisch verfügbare personenbezogene Daten bei privaten Dritten	4. Forum Europäische Sicherheit (Session: Grenzen der Zugriffsrechte der Ermittlungsbehörden in der Cloud und dem Datenschutz im Internet). Organised by Deutsche Hochschule der Polizei. Deutsche Hochschule der Polizei, Münster, Germany: 21.11.2014	Emma Peters
Lecture/Talk: Veröffentlichung von IT-Sicherheitslücken	4. Forum Europäische Sicherheit (Session: Herausforderungen für das BSI in der IT-Sicherheit). Organised by Deutsche Hochschule der Polizei. Deutsche Hochschule der Polizei, Münster, Deutschland: 21.11.2014	Hannfried Leisterer
Lecture/Talk: Was junge User vom Journalismus erwarten	Die Wissenwerte – Bremer Forum für Wissenschaftsjournalismus (Session: Vom Leser zum User: Was folgt aus dem veränderten Medienkonsumverhalten für die (wissenschafts-) journalistischen Produkte?). Organised by TU Dortmund University. Maritim Hotel & Congress Centrum, Bremen, Germany: 24.11.2014	Sascha Friesike

Selected organisation of academic lectures and panels

EVENT	LOCATION/DATE	RESEARCHER
Workshop: Rechtliche Grenzen nachrichtendienstlicher Überwachung der Einzelnen – 1. Werkstattgespräch	Walter Hallstein-Institut für Europäisches Verfassungsrecht, Berlin, Germany 24.02.2014	Emma Peters, Hannfried Leisterer, Ingolf Pernice
Workshop: Internet Surveillance and Human Rights in Europe – 2. Werkstattgespräch	Walter Hallstein-Institut für Europäisches Verfassungsrecht, Berlin, Germany 27.03.2014	Emma Peters, Hannfried Leisterer, Ingolf Pernice
Seminar/Teaching series: Masterseminar HU Berlin im Fachbereich Medienwissenschaft	Humboldt-Universtität zu Berlin, Institut für Medienwissenschaft, Berlin, Germany 28.04.2014 – 14.07.2014	Theresa Züger
Workshop: Telekommunikationsüberwachung und Datenabfrage durch staatliche Behörden bei Unternehmen – 3. Werkstattgespräch	Walter Hallstein-Institut für Europäisches Verfassungsrecht, Berlin, Germany 01.07.2014	Emma Peters, Hannfried Leisterer, Ingolf Pernice
Workshop: Moot Court: Copyright for Formats in the Digital Age	Filmakademie Baden-Württemberg, Ludwigsburg, Germany 07.07.2014	Maximilian von Grafenstein
Workshop: Völkerrecht des Netzes	Walter-Hallstein Institut, Berlin, Germany 08.09.2014	Emma Peters, Adrian Haase, Osvaldo Saldías, Ingolf Pernice
Seminar/Teaching series: Business Model Innovation	University of St. Gallen, St. Gallen, Switzerland 25.09.2014 – 21.12.2014	Martina Dopfer
Workshop session/Conference session: Berlin Early Stage Researchers Colloquium on Internet and Society 2014	Humboldt-Universität zu Berlin, Berlin, Germany 09.10.2014	Rike Maier, Lies van Roessel, Urs Kind, Maximilian von Grafenstein
Workshop session/Conference session: III Annual Meeting INVECA, Association of Chilean Scholars in Germany	Universität Bamberg, Bamberg, Germany 09.10.2014 – 10.10.2014	Osvaldo Saldías
Conference: Internet Governance. Actors, Technology, Content	Humboldt Institut für Internet und Gesellschaft, Berlin, Germany 09.10.2014 – 10.10.2014	Jörg Pohle, Jeanette Hofmann, Ingolf Pernice, Wolfgang Schulz, Larissa Wunderlich
Workshop: Civil Disobedience beyond the State	Department of Philosophy, Faculteitskamer, Amsterdam, Netherlands 30.10.2014 – 31.10.2014	Theresa Züger
Conference: Schutz von Privatsphäre und Daten in Zeiten von Big Data, staatlicher Überwachung und digitaler Grenzenlosigkeit	Humboldt-Universität zu Berlin, Senatssaal, Under den Linden 6, Berlin, Germany 03.12.2014	Emma Peters, Hannfried Leisterer, Ingolf Pernice

PROMOTING UP-AND-COMING RESEARCHERS

1. Number of contributions to conferences

EVENT ACTIVITY	EVENT	RESEARCHER
Lecture/Talk: The social dilemma of putting the idea of open science into practice	General Online Research Conference. Organised by German Society for Online Research (DGOF). Cologne University of Applied Sciences, Cologne, Germany: 06.03.2014	Kaja Scheliga
Lecture/Talk: The social dilemma of putting the idea of open science into practice	Science 2.0 Conference. Organised by Leibniz Research Alliance Science 2.0. Riverside, Hamburg, Germany: 26.03.2014	Kaja Scheliga
Lecture/Talk: Surveil Your Citizens While You Surveil Mine – Selected (Global) Constitutional Thoughts on the Chiasmus in International IT Surveillance	The 6th Biannual Surveillance & Society Conference (Session: States & Governments). Organised by Surveillance Study Network. University of Barcelona, Barcelona, Spain: 25.04.2014	Julian Staben, Hannfried Leisterer
Lecture/Talk: Crowdfunding for Hardware Startups	ECIS conference. David Intercontinental Hotel, Tel Aviv, Israel: 09.06.2014	Robin P. G. Tech
Lecture/Talk: Open Source Hardware Business Models	SASE conference. University of Chicago, Chicago, United States of America: 12.07.2014	Robin P. G. Tech
Lecture/Talk: Business Model Development of Startups	Research Camp. Organised by Institute of Technology Management. Institute of Technology Management, University of St. Gallen, St. Gallen, Switzerland: 26.08.2014	Martina Dopfer
Lecture/Talk: Neue Publikationsformen in der Wissenschaft	AGMB-Jahrestagung Mannheim 2014 (Medizinbibliotheken: Information). Organised by AGMB-Jahrestagung. Universitätsmedizin Mannheim, Mannheim, Germany: 24.09.2014	Kaja Scheliga
Lecture/Talk: Watching Television in the Future and New Distribution Models	ECREA – 5th European Communication Conference (Session: Parallel Session 9 – 17. Television Studies – TV and Innovation). Organised by School of Communication, Arts and Information Technologies (ECATI) at Universidade Lusófona de Humanidades e Tecnologias. Lisbon Congress Centre (CCL), Lisbon, Portugal: 15.11.2014	Anett Göritz, Lothar Mikos
Lecture/Talk: Leibniz Science 2.0. Sharing Research Data in Academia. First Survey Results	Research Data Alliance Europe. Organised by RDA Europe. Helmholtz-Zentrum Potsdam Deutsches GeoForschungsZentrum, Potsdam, Germany: 21.11.2014	Benedikt Fecher
Lecture/Talk: Strafverfolgungsbehördlicher Zugriff auf elektronisch verfügbare personenbezogene Daten bei privaten Dritten	4. Forum Europäische Sicherheit (Session: Grenzen der Zugriffsrechte der Ermittlungsbehörden in der Cloud und dem Datenschutz im Internet). Organised by Deutsche Hochschule der Polizei. Deutsche Hochschule der Polizei, Münster, Germany: 21.11.2014	Emma Peters
Lecture/Talk: Veröffentlichung von IT-Sicherheitslücken	4. Forum Europäische Sicherheit (Session: Herausforderungen für das BSI in der IT-Sicherheit). Organised by Deutsche Hochschule der Polizei. Deutsche Hochschule der Polizei, Münster, Deutschland: 21.11.2014	Hannfried Leisterer

2. Academic visibility and impact

PUBLICATION	RESEARCHER
Al-Ani, A., Stumpp, S., & Schildhauer, T. (2014). Crowd-Studie 2014 – Die Crowd als Partner der deutschen Wirtschaft. HIIG Discussion Paper Series, 2014(02).	Stefan Stumpp
Fecher, B. & Friesike, S. (2014). Sharing Data in Academia. International Conference on Infrastructures and Cooperation in e-Science and e-Humanities.	Benedikt Fecher
Fecher, B., Friesike, S., & Hebing, M. (2014). What drives academic data sharing? Working Paper Series des Rates für Sozial- und Wirtschaftsdaten, No. 236.	Benedikt Fecher
Leisterer, H., Schneider, F. (2014). Privat: Der überarbeitete Entwurf für ein IT-Sicherheitsgesetz – Überblick und Problemfelder. Computer und Recht (CR), CR 2014(9), 574 – 578.	Hannfried Leisterer
Meier-Hahn, U. (2014). Internet interconnection: how the Economics of Convention can inform the discourse on internet governance. Conference Proceedings GigaNet, 9.	Uta Meier-Hahn
Meier-Hahn, U. (2014). Internet exchanges as organisers in the interconnection market. Conference Proceedings at Score International Conference on Organizing Markets, Stockholm.	Uta Meier-Hahn
Scheliga, K. & Friesike, S. (2014). Putting open science into practice: A social dilemma? First Monday, Volume 19(9).	Kaja Scheliga
Scheliga, K. (2014). Opening Science: New publication forms in science. GMS Medizin – Bibliothek – Information, 14(3).	Kaja Scheliga
Züger, T. (2014). Digitaler ziviler Ungehorsam. Spurensuche der Dissidenz im digitalen Zeitalter. Juridikum: Zeitschrift für Kritik – Recht – Gesellschaft, 4/2014, 472 – 482.	Theresa Züger

3. Ratio of students who complete their doctoral thesis

Graduations starting in 2015.

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
Panel: Unpacking the Intermediary Liability Debate in India	Conference: Symposium: Internet and Human Rights in India. India International Centre Annexe, New Delhi, India: 17.01.2014	Wolfgang Schulz
Session lead/Workshop moderation: Identifying gaps and increasing collaboration among Academics in the field of Internet Governance	Conference: Multi-Stakeholder Internet Governance Models, Mechanisms and Issues. Organised by FGV Law School Rio de Janeiro, FGV Law School São Paulo. FGV Law School, São Paulo, Brazil: 25.04.2014	Wolfgang Schulz
Session lead/Workshop moderation: Multistakeholder Internet Governance	Conference: Events Series on the Distributed, Collaborative Internet Governance Ecosystem: Moving towards a Collaborative Internet Governance Ecosystem: Contributions by the Academic Community and Next Steps. Organised by ICT Law Institute, Bilgi University. Bilgi University, Istanbul, Turkey: 22.05.2014	Wolfgang Schulz
Lecture/Talk: Online Intermediaries	Online Intermediaries. Organised by Institute for Advanced Study, Harvard University. Institute for Advanced Study, Harvard University, Cambridge, USA: 07.08.2014	Wolfgang Schulz
Discussion/Meeting	Conference: Bottom-Up: Insights and Inspiration from Real-World Case Studies The Evolution of the Internet Governance Ecosystem. Organised by Global Network of Interdisciplinary Internet & Society Research Centers (NoC). Nexa Center for Internet & Society, Turin, Italy: 02.10.2014	Wolfgang Schulz

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

RESEARCHER/DATE/DIRECTOR	SHORT CV/HOME INSTITUTION
Antonio Compagnone 02.06.2014 – 30.01.2015 Thomas Schildhauer	Antonio Compagnone holds an MA in Modern Languages from the University of Naples Federico II, Department of Humanities, Italy, where he is also a teaching assistant of English Language and Linguistics. He is a PhD candidate in English for Specialized Purposes (ESP) at the University of Naples Federico II, Department of Political Science University of Naples Federico II
Engin Bozdag 15.06.2014 – 15.08.2014 Wolfgang Schulz	Engin completed both his MSc and BSc degrees in Computer Science in Delft, specializing in web based applications. Before joining TU Delft as a PhD candidate, he was working as a search quality associate in Google. Within the period of June to August 2014 he continues his research as fellow at HIIG Delft University of Technology
Florian Süssenguth 15.08.2014 – 15.02.2015 Jeanette Hofmann	Florian Süssenguth 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 digitization within different social contexts and their implication for the formulation and advancement of theories of society and of social differentiation LMU München
Leonie Maria Tanczer 05.01.2015 – 27.03.2015 Ingolf Pernice	Leonie Maria Tanczer is PhD Candidate at the School of Politics, International Studies and Philosophy, Queen's University Belfast (UK). She studied Political Science (B.A.) at the University Vienna and University of Limerick (Republic of Ireland) and Political Psychology (MSc.) at the Queen's University Belfast Queen's University Belfast

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

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

TITLE	MEDIUM/DATE	RESEARCHER
Article: Das Internet ist nicht kaputt, aber die Tradition des Privaten	Der Tagesspiegel (Print) 20.01.2014	Jeanette Hofmann
Interview: Internet als Forschungsfeld Von Überwachung, Regulierung und Meinungsfreiheit	Deutschlandfunk (Radio) 30.01.2014	Jeanette Hofmann
Interview: Sonntagmorgen	SWR1 (Radio) 02.02.2014	Lennart Ziebarth
Article: Themenrecherche, Aufbereitung und Vermarktung: Wie kann Open Journalism funktionieren?	irights-media (Print) 07.02.2014	Benedikt Fecher, Stefan Stump
Interview: Wir müssen wissen, was mit unseren Daten geschieht	N24 (TV) 28.02.2014	Thomas Schildhauer
Interview: Der Maßschuh aus dem 3D-Drucker	Deutschlandradio Kultur (Online) 14.03.2014	Hendrik Send
Interview: Internet, weltweit gesucht	Breitband (Radio) 15.03.2014	Sascha Friesike
Interview: Ein World Wide Web – die Internet-Verwaltung soll internationalisiert werden	Deutschlandradio Kultur (Radio) 17.03.2014	Jeanette Hofmann
Article: Apple und Netflix: Was beim Thema Netzneutralität auf dem Spiel steht	netzpolitik.org (Online) 27.03.2014	Uta Meier-Hahn
Quote: Elektrischer Reporter – Sharing	ZDF info (TV) 28.03.2014	Hannfried Leisterer
Quote: Wer regiert das Internet?	Frankfurter Allgemeine Zeitung (Print) 09.04.2014	Jeanette Hofmann
Article: Der Staat als virtuelle Plattform	HuffingtonPost (Online) 18.04.2014	Ayad Al-Ani
Quote: In São Paulo soll die Zukunft des Internets entstehen	Zeit Online (Online) 23.04.2014	Jeanette Hofmann
Quote: NETmundial: Weichenstellung für die Internet-Zukunft	heise online (Online) 23.04.2014	Jeanette Hofmann
Quote: NETmundial: Internetkonferenz fordert Schutz der Privatsphäre	SpiegelOnline (Online) 25.04.2014	Jeanette Hofmann
Quote: Ich sehe was, was Du nicht siehst, und das ist – Netzpolitik!?	netzpolitik.org (Online) 30.04.2014	Jeanette Hofmann, Simon Rinas
Quote: Elektrischer Reporter: Kryptowährung	ZDF info (TV) 09.05.2014	Sascha Friesike
Quote: Die Farbe Blau	Handelsblatt (Print) 15.05.2014	Ayad Al-Ani
Interview: „Wir haben es mit einem Paradox zu tun"	Handelsblatt (Online) 04.06.2014	Jeanette Hofmann
Quote: Die Angst der Taxi Branche	Volksstimme (Online) 15.06.2014	Hendrik Send
Article: EuroDIG: Copyright ist nicht Urheberrecht	netzpolitik.org (Online) 18.06.2014	Uta Meier-Hahn
Reference: HIIG Partizipationsstudie: Wer ist eigentlich diese Netzgemeinde?	netzpolitik.org (Online) 25.06.2014	HIIG
Reference: Das Wissen der Crowd nutzen	Der Standard (Online) 07.07.2014	HIIG
Quote: Elektrischer Reporter: Gesunde Games	ZDF info (TV) 11.07.2014	Wolfgang Schulz

TITLE	MEDIUM/DATE	RESEARCHER
Reference: Ent-netzt oder entsetzt?	Tagesspiegel (Online) 11.07.2014	Jeanette Hofmann
Quote: Zehn Jahre Unternehmen und Social Media	Computerwelt (Online) 24.07.2014	Thomas Schildhauer
Quote: Digitale Agenda hoch drei	Politik Digital (Online) 04.08.2014	Simon Rinas
Interview: Wir sollten Vorreiter beim Datenschutz sein	Tagesspiegel (Online) 18.08.2014	Jeanette Hofmann
Interview: Das Internet ersetzt nicht das Parlament	promedia (Print) 01.09.2014	Hendrik Send
Interview: Manufakturen und digitale Exzellenz	Handmade in Germany (Online) 05.09.2014	HIIG
Quote: Edward Snowden Emerges as a Cult Hero in Germany	The Wall Street Journal (Print) 24.09.2014	Jeanette Hofmann
Interview: Die Zukunft des Handelns	ZeitCampus (Print) 30.09.2014	Maximilian von Grafenstein
Reference: Innovation und Imitation: Wie Spiele-Klone Entwicklern zu schaffen machen	WIRED (Online) 09.12.2014	Lies van Roessel

4. 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, communication and platforms' on pp. R.202 – R.204.

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

EVENT ACTIVITY	EVENT	RESEARCHER
International scope		
Keynote: Techno-Political Controversies: Multistakeholder Processes as a Panacea?	Workshop on Responsible Research and Innovation (RRI) by the RESPONSIBILITY Forum. Organised by RESPONSIBILITY Forum: Global Model and Observatory for International Responsible Research and Innovation Coordination. Brussels, Belgium: 11.02.2014	Jeanette Hofmann
Lecture/Talk: Terms & Conditions – it's ze law, stupid! Taking practical suggestions from German Constitutional Law	RightsCon Silicon Valley. Organised by access. Mission Bay Conference Center, San Francisco, USA: 03.03.2014	Kirsten Gollatz, Julian Staben
Lecture/Talk: Internet, Human Rights and Privacy	IV Fórum da Internet no Brasil/Pré IGF Brasileiro. /, São Paulo, Brazil: 25.04.2014	Jeanette Hofmann
Discussion/Meeting	Conference: Analyze the transnational due process framework envisaged by the I&J Project's global multi-stakeholder dialogue process notably from a legal perspective Internet & Jurisdiction Observatory Network Meeting. Organised by Internet & Jurisdiction Observatory Network. Internet & Jurisdiction Observatory Network, Berlin, Germany: 12.05.2014	Wolfgang Schulz
Participating expert	Hearing: Final report on governmental project: Chile, a digital hub for the region. Chilean Ministry of Economics, Santiago de Chile, Chile: 01.06.2014	Osvaldo Salídas
Session lead/Workshop moderation:	Workshop: BMI Workshop Plug and Play. Organised by University of St. Gallen. BMI Lab, St. Gallen, Switzerland: 31.08.2014	Martina Dopfer
Lecture/Talk: The social side of internet interconnection	European Peering Forum 2014. Organised by AMSIX, DECIX, LINX, netnod. Hotel Le Meridien, Split, Croatia: 23.09.2014	Uta Meier-Hahn
Lecture/Talk: The social side of internet interconnection	69th RIPE Meeting (Session: Working Group 'Connect'). Organised by RIPE NCC. Hammersmith International Centre, London, United Kingdom: 04.11.2014	Uta Meier-Hahn
Lecture/Talk: How could MOOCs be produced on a small cost base?	APAC MOOC Focused Faculty Workshop. Organised by google China. google Shanghai Office, Shanghai, China: 21.11.2014	Thomas Schildhauer
Lecture/Talk: A short history of governance and stakeholders	2nd African School on Internet Governance. Organised by Association for Progressive Communications (APC). /, Bel Ombre, Mauritius: 23.11.2014	Jeanette Hofmann
National scope		
Panel: ES-Forum IX: Die digitale Stadt – medienbruchfrei und prozessorientiert	Conference: Fachkongress Effizienter Staat. Organised by Behörden Spiegel. dbb Forum Berlin, Berlin, Germany: 01.04.2014	Osvaldo Saldías
Lecture/Talk: Session: Books gone wild – wie wir wissenschaftliche Bücher offen, kollaborativ und kontinuierlich schreiben	re:publica14. Organised by re:publica. Station Berlin, Berlin, Deutschland: 07.05.2014	Kaja Scheliga, Lambert Heller, Sönke Bartling
Lecture/Talk: NETmundial: Großer Sprung vorwärts, ein paar Schritte zurück	re:publica. Station Berlin, Berlin, Germany: 08.05.2014	Jeanette Hofmann
Discussion/Meeting	Conference: Rechtemanagement D-Werft Kick-Off VP 3. filmwerte GmbH, Potsdam, Germany: 08.05.2014	Rike Maier
Lecture/Talk: Digitale Medienordnung: Eckpunkte Medienstaatsvertrag. Gleiche Rechte und Pflichten für alle?	Next Level Transformation. Organised by Medienforum NRW, ANGA COM. Congress Centrum Ost, Roof Deck Raum C/Koelnmesse, Cologne, Germany: 20.05.2014	Wolfgang Schulz
Lecture/Talk: Die immer noch aktuellen Grundfragen des Datenschutzes	Es gibt kein harmloses Datum. Systemdenken wider die Diktatur der Daten. Gedächtnissymposion für Wilhelm Steinmüller. Organised by Europäische Akademie für Informationsfreiheit und Datenschutz. Europäische Akademie Berlin, Berlin, Germany: 22.05.2014	Jörg Pohle
Discussion/Meeting	Conference: Startup BootCamp-Speed Summit. Startup Bootcamp, Berlin, Germany: 27.05.2014	Martina Dopfer

EVENT ACTIVITY	EVENT	RESEARCHER
Discussion/Meeting	Conference: Veränderung und Herausforderung – Politischer, medialer und technischer Wandel Symposium: „Im öffentlichen Interesse – Bedeutung und Zukunft des öffentlich-rechtlichen Rundfunks". Organised by Historische Kommission der ARD. NDR, Hamburg, Germany: 28.05.2014	Wolfgang Schulz
Keynote: Instrumente der Media Governance	Mediendialog 2014: Freiheit, Verantwortung, Klarheit – Koordination einer digitalen Medienordnung. Organised by Hamburger Senatskanzlei, Amt Medien. Rathaus Hamburg, Hamburg, Germany: 04.06.2014	Wolfgang Schulz
Keynote: Intro to Startup Clinics	Startup Clinics at Startup Bootcamp breakfast. Clinics, Berlin, Germany: 06.06.2014	Martin Wrobel
Lecture/Talk: How to startup in Berlin	TechOpenAir (Session: TechOpenAir Satellite Event). Tech Open UG, Berlin, Germany: 17.07.2014	Martin Wrobel
Participating expert	Hearing: Forum Digitale Gesellschaft „Big Data – eine Herausforderung für den Datenschutz". Organised by Bundesministerium des Innern. Besucherzentrum des Ministeriums des Inneren, Berlin, Germany: 21.08.2014	Ingolf Pernice
Lecture/Talk: Produzieren und Verwerten von Big, Medium & Small Screen Content	Linked Film & TV Workshops 2014 (Session: Block II – Anytime, Anyway, Any Devices!). Organised by transfer media, media.connect brandenburg. transfer media, Babelsberg, Germany: 16.09.2014	Urs Kind, Uwe Schnepf, Hannes Jakobsen, Veit Quack
Panel: Universitäten & Forschungseinrichtungen, Bundesämter, Bundesanstalten	Conference: Forum für Innovation, Wachstum und Unternehmenssicherung in Deutschland – Spitze bleiben. Organised by Leonhard Ventures. Gründer- und Technologiezentrum Adlershof, Berlin, Germany: 09.10.2014	Thomas Schildhauer
Discussion/Meeting	Conference: Zukunftsressourcen: Woraus Engagement gemacht wird 50 jähriges Jubiläum Robert Bosch Stiftung. Organised by Robert Bosch Stiftung. Telekom Repräsentanz, Berlin, Germany: 16.10.2014	Thomas Schildhauer
Lecture/Talk: Folge den digtalen Trends! – Nutze internetbasierte Geschäftsmodelle	DeGut – Deutsche Gründer- und Unternehmertage. Flughafen Tempelhof, Berlin, Germany: 17.10.2014	Martina Dopfer
Discussion/Meeting	Workshop: Neue Publikationsformate Barcamp Wissenschaft 2.0 – Forschung Neu Denken. Organised by Wissenschaft im Dialog. Betahaus, Hamburg, Germany: 17.10.2014	Kaja Scheliga
Session lead/Workshop moderation:	Workshop: DeGut – Deutsche Gründer- und Unternehmertage. Flughafen Tempelhof, Berlin, Germany: 18.10.2014	Martina Dopfer
Discussion/Meeting	Workshop: Putting the Idea of Open Science into Practice Open Access Week. Organised by Science Open & HIIG. Humboldt Institut für Internet und Gesellschaft, Berlin, Deutschland: 22.10.2014	Kaja Scheliga
Panel: Quantified Self – Fluch und Segen der Selbstvermessung	Conference: 29. Herrenhäuser Gespräche. Organised by VolkswagenStiftung. Tagungszentrum Schloss Herrenhausen, Hannover, Germany: 27.11.2014	Thomas Schildhauer
Lecture/Talk: Vorratsdatenspeicherung und das Unionsgrundrecht auf Sicherheit: Öffnet der EuGH die Büchse der Pandora?	Recht der zivilen Sicherheit (Session: Rechtsvergleichende Untersuchungen auf europäischer / internationaler Ebene). Organised by Bundesministerium für Bildung und Forschung. Georg-August-Universität Göttingen, Göttingen, Germany: 05.12.2014	Sebastian Leuschner

SECURING AND DEVELOPING THE INSTITUTE'S WORK

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

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

2. Acquisition of project funding (at least 250T € external funding p.a.)

FUNDING	BRIEF DESCRIPTION	FUNDER	DIRECTOR/RESEARCHER	TIME FRAME
46 000 €	Support on project: Wachstumskern »dwerft« – Verbundprojekt 3: Rechtemanagement; Gesetzliche Voraussetzung für die Verwertung von Verwaisten Werken	BMBF	Ingolf Pernice, Rüdiger Schwarz	01.03.2014 – 28.02.2017
23 000 €	Support on project Wachstumskern »dwerft« – Verbundprojekt 4: Distributionstechnologien; Nutzerseitige Impulse zur Entwicklung von Geschäftsmodellen	BMBF	Thomas Schildhauer, Sascha Friesike	01.03.2014 – 28.02.2017
48 000 €	Support on project: Wachstumskern »dwerft« – Verbundprojekt 5: Zukunftsforschung und Wissenstransfer; Erforschung zukünftiger sozialer und wirtschaftlicher Entwicklungen im A/V-Wirtschaftszweig	BMBF	Thomas Schildhauer, Sascha Friesike	01.03.2014 – 28.02.2017
12 000 €	Support on research: Multi Stakeholder Internet Governance	ICANN	Jeanette Hofmann, Wolfgang Schulz,	16.03.2014 – 31.12.2014
46 000 €	Support on project: MOOCs & Knowledge Base	google	Thomas Schildhauer, Christopher Newman, Anna Hansch	01.04.2014 – 31.12.2014
48 000 €	Support on special broadcast: Digitaler Salon	BMBF	Karina Preiß, Larissa Wunderlich	01.04.2014 – 31.12.2014
5 000 €	Support on project: Internet Policy Review	CREATe/ University Glasgow	Jeanette Hofmann, Frédéric Dubois, Uta Meier-Hahn	01.07.2013 – 31.07.2014
135 000 €	Developement of Internet Entrepreneurship Research	GFI/google	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	01.07.2013 – 30.06.2016
170 000 €	Support in project: KORSE	University of Freiburg (BMBF)	Ingolf Pernice, Rüdiger Schwarz	01.07.2013 – 31.01.2016
593 000 €				

DANKE TEŞEKKÜR EDERIM **TODA** XIÈXIE **GRAZIE** HVALA **DANKON**
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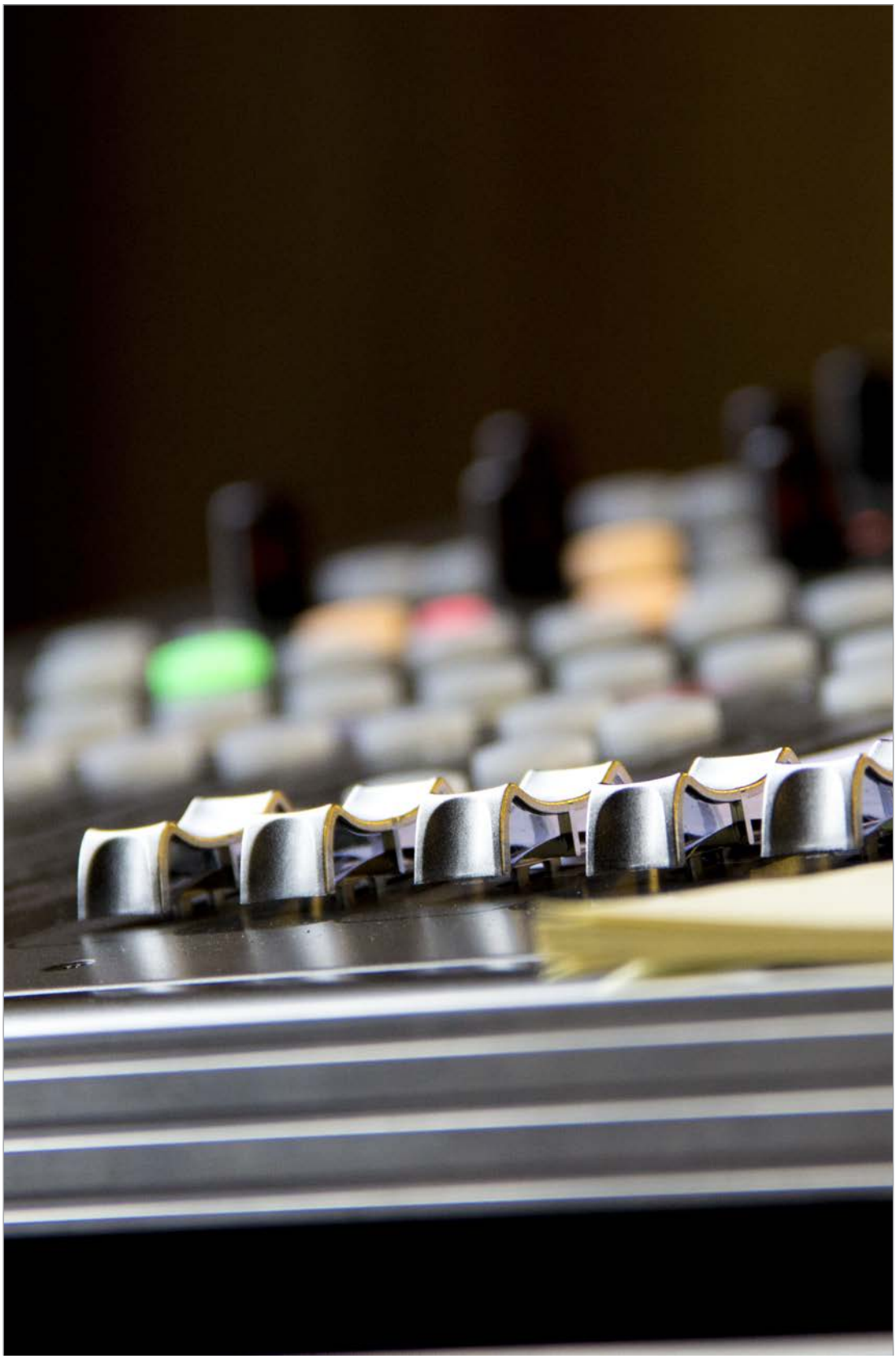

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