The Magazine

1.20

Digital

How data collection and new technologies are changing our lives

Robert Bosch Stiftung

Dear Readers,

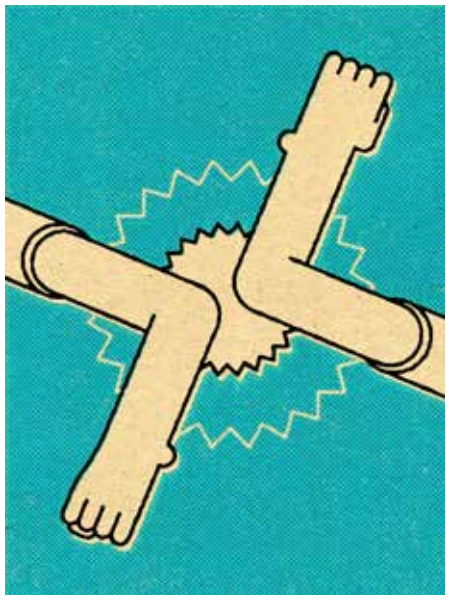
Ones and zeros form the basis of the digital world. They are what bits and bytes are made of. Transformed into electrical or optical signals – power or no power, light or no light – these ones and zeros store and transport unimaginable volumes of data these days. For ones and zeros, power and light, it is the rules of mathematics and physics that apply. At first glance, the world of binary figures is clear and logical. But that's only true up until the point when humans come in.

Digitalization does not make the world simpler and more logical for people. On the contrary. The effect of big data and algorithms on almost all areas of our lives is highly ambivalent. Does unlimited access to information empower responsible citizens? Or do they simply become manipulable objects due to the analysis of their data? What does that mean for democracy? Does social media still foster the "spring" for civil society, as was the case a few years ago in the Arab world? Or are we in danger of being subjected to total surveillance through facial recognition and the across-the-board capturing of our digital tracks? Does digital education help all children to realize their full potential, or does it simply intensify the digital division in society?

Whether it is the potentials or the risks that ultimately turn into reality is not down to fate. We must set the rules of digitalization together as a society. To do so, we require a nuanced debate, in which civil society must have a say. You'll hopefully find more than a few ideas for that in this issue.

We hope you enjoy the read!

Joachim Rogall, Sandra Breka, Hans-Werner Cieslik
Board of Management of the Robert Bosch Stiftung



Topics Related to the Coronavirus Crisis

The coronavirus crisis has given a new urgency to many questions relating to digitalization. Some of these questions are addressed on the following pages of this issue:

Discussion of the opportunities and risks of digitalization for civil society – page 18

Essay on the inequality to access digital technology – page 28

Report on school lessons during the pandemic – page 30

Illustration: Doreen Borsutzki

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How digitalization is changing our lives

Eight aspects that show why transparency, civil rights and liberties, and inclusion must be renegotiated in the digital age.

By now, more than half of all Internet users worldwide live in the Global South.

50%
of likes for hate comments on Facebook can be traced back to only

5%
of accounts.

Only around **a quarter** of German teachers and students have access to Wi-Fi at their schools.

Internet freedom as measured on the basis of aspects such as censorship of content and surveillance has improved in 16 countries around the world.

It has worsened in
33
countries.

According to conservative estimates, the amount of data available globally **doubles** every twenty months.

In 2019, 34%
of the Germans used social media as a news source.

The figure was 18% in 2013.

The former is the lowest figure in Europe.

69%

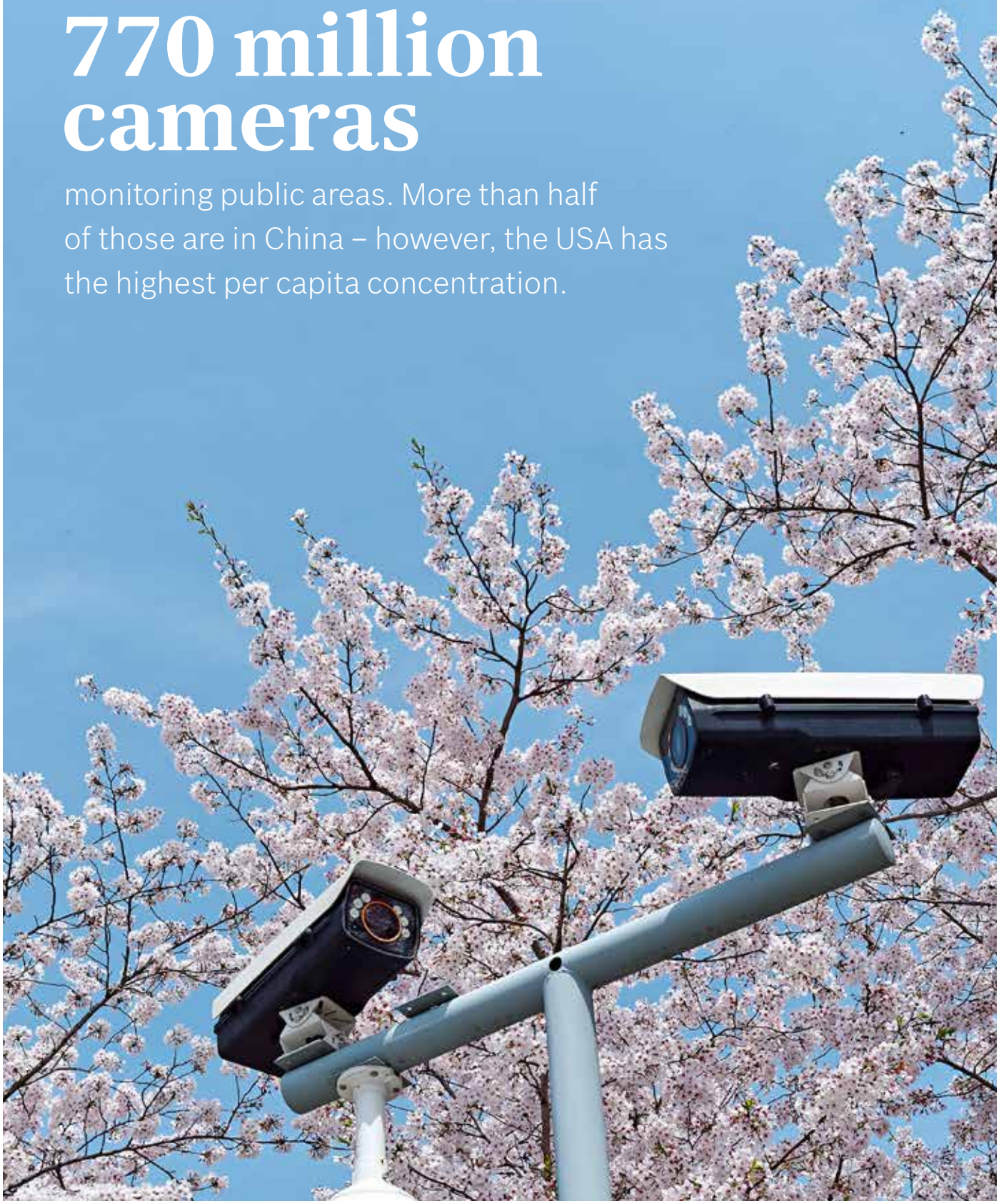
of Germans have basic digital skills (calling up e-mails and websites). That is higher than the European average of 59%.

Sources: ICILS survey 2018, Digital News Report 2019 by the Reuters Institute/University of Oxford, Institute for Strategic Dialogue study, Digital News Report 2019, CNBC 2019, the US organization Freedom House, Faz.net

Around the world there are

770 million cameras

monitoring public areas. More than half of those are in China – however, the USA has the highest per capita concentration.



Text and research: Jan Abele | Photos: Kent Andreasen, Per Swantesson/Stocksy, Heinrich Holtgreve/OSTKREUZ, Getty Images

As a historian, Theo Müller not only scours the Internet for historical falsehoods; with similar elaborateness, the twenty-eight-year-old is currently also focusing on his dissertation at Heidelberg University and the School of Advanced Studies in the Social Sciences (EHESS) in Paris.

Facts vs. Fabrication

Historian Theo Müller's project "GeschichtsCheck.de" ("History Check") responds to Internet users who spread fake news as historical facts on the web.

It was the peak of the so-called refugee crisis about four years ago. We noticed a new caliber of public racism, hate speech, and turbulence in the world of social media. Many writers corroborated their contemptuous argumentations with what were supposedly historical connections. This gave them a dangerous veneer of trustworthiness. One user, for example, substantiated his hostile attitude toward immigration by stating that Germany managed to achieve its *Wirtschaftswunder*, its economic miracle, in the 1950s without the help of immigrants. This is just one example of the profusion of historical nonsense that arose on the Internet during that time – and that we, as historians, could not simply leave unchallenged. But what were we able to do?

"We" in this instance refers to members of the Open History organization, a network of people working on and with history in many different places. We want to show that historians don't just sit in archives writing books that no one reads; in fact, they can make a significant contribution to improving the climate for dialog in our society. Thus, it was with great enthusiasm that we began our mission across all channels. We commented, explained, and set things straight. I started a long debate on Twitter with the user who had asserted that the *Wirtschaftswunder* didn't involve immigrants, and I was quickly stretched to my limits. As soon as I had refuted his argument, he confronted me with new ludicrous claims. I finally gave up, with the sobering realization that there was no hope of reasoning with the Internet trolls, even with solid argumentation. But if the facts don't get through to the conspiracy theorists and agitators, we must at least open up the reading audience to the facts. On the website GeschichtsCheck.de, we make factual knowledge available for all those who are confronted with historical claims on the Internet and want to know what's actually true.

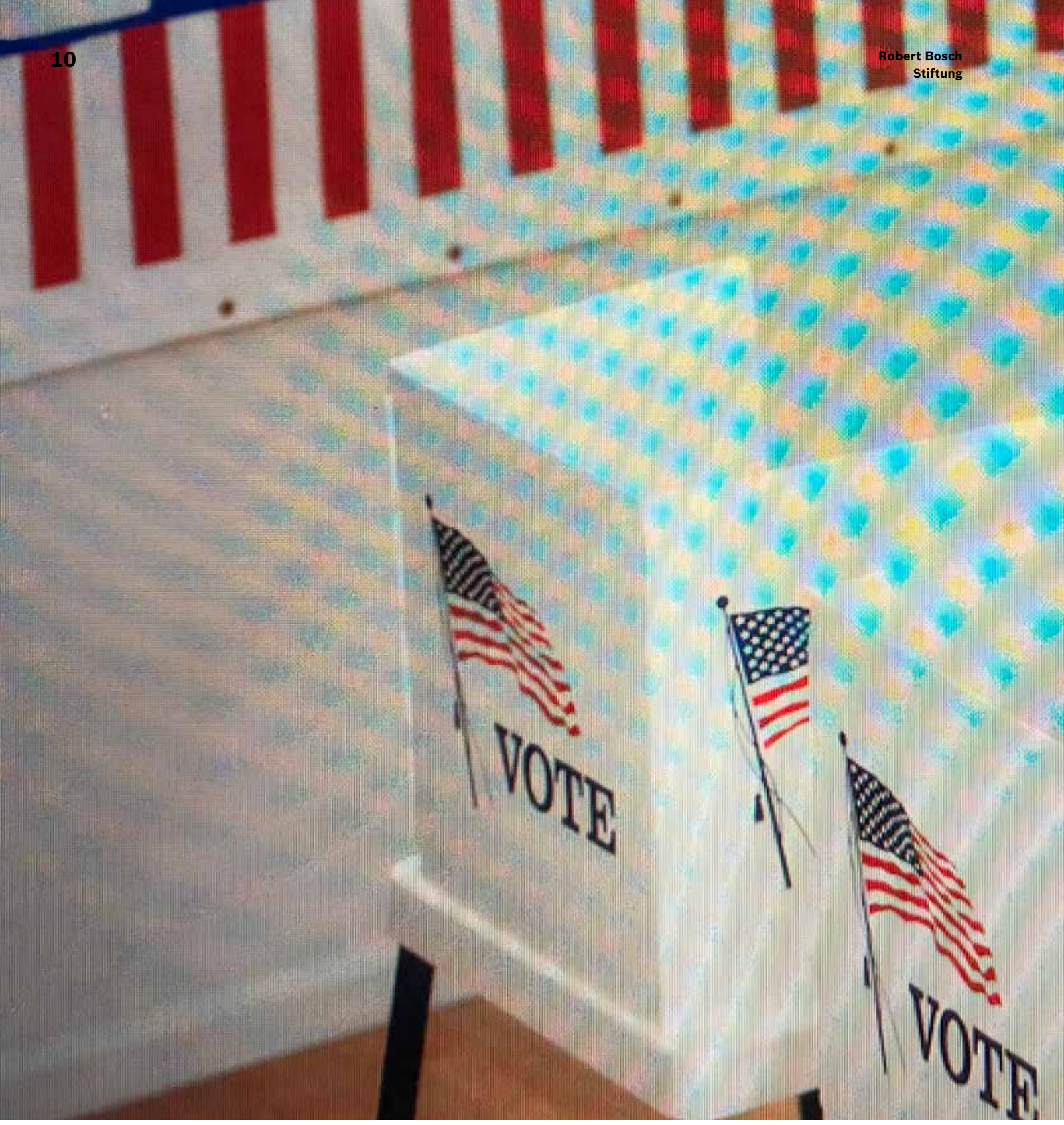
The website is easy to find through keywords on search engines and provides users with a tool to distinguish the historical facts from the lies. We regularly scan the Internet to see what historical distortions are currently being circulated, and we write corresponding articles that are then published on GeschichtsCheck.de. It often involves very fundamental questions: whether or not Germany is a sovereign state, why the European Union was established or what the term "racist" exactly means.

But sometimes the topics are more difficult. Recently, for instance, I've been noticing a considerable increase in anti-Semitic content. With responses supported by facts, we aim to take an objective approach in countering the often aggressive disparaging comments. We can only effectively tackle the problem of fake news if we ensure that those who are spreading falsehoods on the Internet no longer have a leg to stand on – because the broader public is simply savvier than they are.

GeschichtsCheck.de and the NETTZ

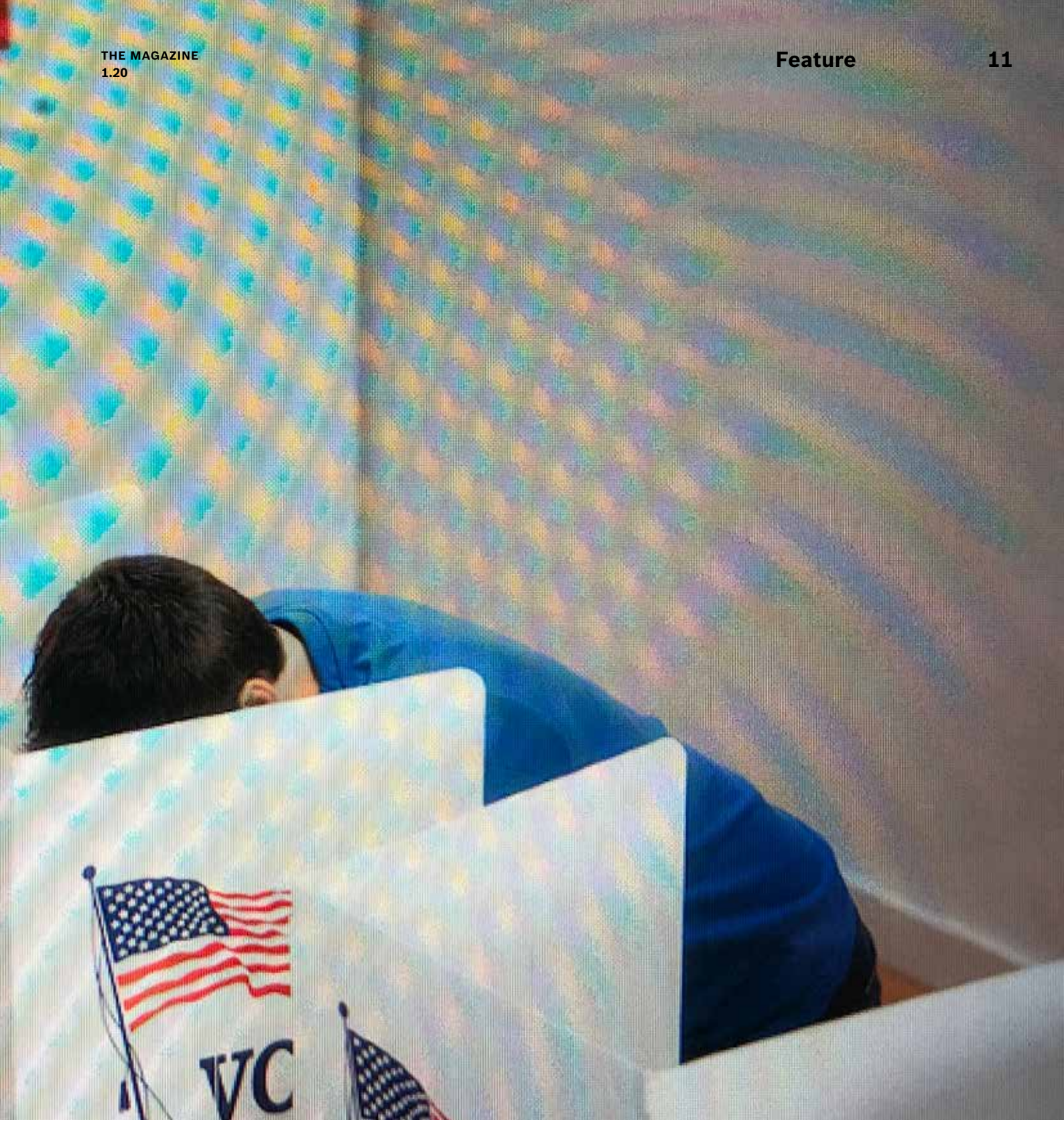
The GeschichtsCheck.de team is not only working against hate speech, disparagement, and the propagation of fake news online. The project also involves related workshops for school classes, in which students learn to more critically assess content they encounter on the web. "NETTZ – the network against hate speech," a platform founded at the end of 2017, supports GeschichtsCheck.de and other projects and initiatives that seek to promote more mutual respect, humanity, and a positive culture of dialog on the Internet. Robert Bosch Stiftung and Stiftung Mercator are patrons of the NETTZ.

Text: Jan Abele | Photo: Anne-Sophie Stolz



The Digital Influence Machine

TEXT
Martin Petersen



Election campaigns are increasingly moving to social media, especially in the United States, and using their customized tools. A look at the toolkit of the digital campaign industry – and how its methods are impacting democracy.

Only the details differ in the slew of Facebook ads that Donald J. Trump ran on a single day in April. All consist of an image with a headline. A prominent element in the center of the image is a red-colored section of wall reminiscent of the barrier at the US-Mexican border. Visible in the background is a construction site with a row of blue portable toilets. Emblazoned across the top of the image is the question SHOULD WE DEPORT ILLEGALS? Along the lower edge viewers read: HAVE YOUR SAY.

This was the first of the more than 1,000 almost identical ads. The next was in vertical format, and the portable toilets were cut off. The third featured a slightly different text with ANSWER NOW written at the bottom.

In April 2020 alone, the Trump reelection team ran around 30,000 Facebook ads. Most were viewed just by a few hundred targeted individuals, but all can be found in Facebook's Ad Library, which the company introduced in 2018 to add transparency to advertising. For the two-year period from May 2018 to May 2020, Trump's campaign team spent around 38 million dollars solely on election ads appearing on Trump's Facebook page. This is roughly the amount that a corporation like Google spends on online advertising in Germany in a single year.

The main reason for these sums is that important people close to the US president are convinced that the 2016 election was won primarily in the social media – an assessment that is apparently shared by Facebook's top manager Andrew Bosworth. In a leaked staff memo, Bosworth, who is a confidant of Mark Zuckerberg, wrote of Trump: "He was elected because he ran the single best digital ad campaign I've ever seen from any advertiser." According to Bosworth, the campaign team working for Trump's Democrat opponent, Hillary Clinton, used its

digital advertising budget far less effectively. With a view toward the 2020 election, the Trump campaign wants to continue the momentum of 2016. Its numerous, nearly identical ads with the red wall are proof of the massive use of a tool that could once again play a decisive role in the election: microtargeting.

Gary Wright is an expert in digital advertising campaigns. With his small team at the Berlin-based NGO Tactical Technology Collective, he studies what type of data is used by different political actors and how their various methods work. Wright's team has learned that no fewer than three hundred companies are involved in the US digital election campaign. These companies specialize in collecting and analyzing the information and digital traces we all leave behind on the Internet; in creating profiles; and in developing and implementing strategies to turn this treasure trove of data into votes. "The whole industry is trying to find the magic formula for changing a voter's political preference," Wright says. However, digital campaigns rarely work so directly. "The deep-rooted supporters of another party are not even targeted at first, because it's an inefficient use of money." The Trump campaign's experienced professionals are relying on other strategies – at least for the moment.

IDENTIFYING AND MOBILIZING VOTERS

"Political digital campaigning has grown out of digital marketing," Wright says. "The rule is: the better you know and understand your voters, the better you can create messages that elicit voter responses and actions." The focus is on identifying and mobilizing supporters – "whether it is through a call to vote, to donate money, or to volunteer."

The ad with the red wall shows how campaigns can achieve this goal most effectively. "Every Facebook ad is in itself a mechanism for data collection," says Wright. It is automatically displayed in thousands of variations, and an algorithm analyzes the text, color, and section of the image that appeals the most to different users. This helps ensure that the ad achieves the desired results among a growing number of targeted individuals. In the campaign featuring the red wall, the goal was to get users to participate in a survey that asked for their e-mail address. The telephone number is often transmitted as well. "In the hands of experienced campaign managers, this is a powerful tool," Wright says. "As soon as you've got the contact details, you can continue your efforts with automated telephone calls and direct text messages."

"The whole industry is trying to find the magic formula for changing a voter's political preference."

Collecting contact data is worth it for two reasons. Once a campaign has received an e-mail address in this

Photos: Hill Street Studios/Getty Images (M, previous page), Dan Thornberg/EyeEm (M), Zuma Press/action press (M)

way – or at campaign rallies, in petitions, or through newsletter registrations and free offers – mobilization can be stepped up with the help of Facebook and Google. "The moment you upload a contact database," explains Wright, "Facebook looks to see whether there is a Facebook profile for each of the entries. This is usually the case. Then, with the help of artificial intelligence, it looks for similar profiles based on characteristics that are invisible to the eye." With just one click, a target group of 30,000 contacts becomes one with 60,000 contacts. Facebook calls this tool "Lookalike Audiences." Google offers "Similar Audiences," which works the same way.

DARK ADS THAT SPREAD FAKE NEWS

Digital campaign marketing is particularly effective in a winner-takes-it-all system with majority decisions. This can be seen in the US election campaign and was also evident in the 2016 referendum on the UK's exit from the EU. The Vote Leave campaign, whose leaders currently hold key positions in the UK government, spent more than 98 percent of its budget on digital advertising, as campaign manager Dominic Cummings revealed in a *Spectator* article. Vote Leave and other pro-Brexit campaigns also channeled their money into "dark ads" that were displayed to extremely small target groups via microtargeting and were not initially made public. German investigative journalism center Correctiv has analyzed the ads that Facebook agreed to disclose in 2018 after a long tug-of-war with the British House of Commons. Its analysis shows how the political demand to leave the EU was adapted to different target groups and that the ads were used to spread fake news, such as Turkey's imminent accession to the EU. Although it is impossible to track the effects of the individual ads, the success of the campaign as a whole is well known.

Jeanette Hofmann is a professor of Internet policy at Freie Universität Berlin and a researcher at the Berlin Social Science Center. At these and other institutions, she studies the tensions between democracy and digitalization, paying close attention to microtargeting. "Election campaigns as we know them allow people to challenge specific statements or promises," she says. "When it is no longer possible to critically monitor political advertising because it doesn't reach the public, then we have a problem. It's harmful. It undermines democratic discourse, particularly at times when this discourse is vital because it provides a foundation for our voting decisions."

ALGORITHMS THAT POLARIZE

The shady methods of digital marketing play a much smaller role in elections based on proportional representation, which are the norm in the EU. To be sure, a great deal of money is also flowing into digital election advertising in Europe. As the 2019 European Parliament elections show, between March and May 2019, €17 million was spent on targeted political advertising across the EU, with €2.4 million disbursed in Germany. Yet Europe has not seen the massive digital mobilization campaigns of the US presidential election. Facebook's publicly accessible Ad Library and other measures were introduced to eliminate targeted dark ads containing false information, like those used before the Brexit referendum. "We can assume that microtargeting is not so influential in our electoral system," says Hofmann.

"From the perspective of democratic theory, the goal is to create a sophisticated public."

What instead concerns European political scientists about the efforts to address voters through social media is the effect of algorithms on opinion formation. As Hofmann explains, "Everyone in the research community knows that on platforms such as YouTube, due to the recommendation algorithms they use, a person who views far-right content will be offered more far-right content as a way of creating user loyalty. This is absolutely detrimental to the development of democracy." From the perspective of democratic theory, Hofmann says, the goal is to create a sophisticated public that forms its own opinions and in turn influences political decision-making. Ideally, this means not polarizing voters but offering information and enabling them to weigh options."

Social media companies are paying an increasing amount of attention to their platforms' political and social effects, which is demonstrated by both official and unofficial statements. In a guest contribution to the *Financial Times* in February 2020, Facebook CEO Mark Zuckerberg, for example, voiced his support for greater government regulation, even if it might "hurt Facebook's business in the near term." At the same time, Facebook's management has been defending the pillars of its business model – targeted advertising and the related tools, including the algorithms that populate newsfeeds. Zuckerberg and co-director Sheryl Sandberg see the dissemination of political fake news as part of an open social debate.

When it comes to issues such as polarizing algorithms and data privacy, there are clear ideological differences between Europe and US platform providers such as Facebook and Google. Given these differences, Hofmann wonders why Europeans do not plant a few seeds in the social media space themselves. "I'd like to see us take money in hand on the European level and create alternatives," says the researcher. "And I don't mean alternatives that are handed down from above, but which grow with the involvement of users."

At any rate, Hofmann argues, the existing social networks should enter into dialog with political leaders and society. This could take place at newly founded agencies in which platform operators, users, and political leaders engage in open discussions and develop solutions to improve the social media and their principles in the interests of a democratic society.

Meanwhile, in the US election campaign, there continue to be massive investments in social media. It is already clear that the upcoming election will be more heavily influenced by digital media than any other previous election. "Due to the corona crisis, there has been a huge push into digital media," says Gary Wright. "There has also been an increased willingness by all parties to go as far as possible, to pull out all the stops in order to convince the targeted people to take action, donate money, and vote."

A look at the Facebook Ad Library shows that the Trump campaign has already adopted this mode of operation and is heavily exploiting the toolkit of digital campaign advertising.

Below
Using targeted ads like this, the Vote Leave campaign sent fake news to receptive voters.

Photos: Melinda Nagy/Shutterstock (M), private (graphic shows a Facebook ad for the Vote Leave campaign placed as from April 27, 2016, published on www.parliament.uk)

The post

On May 10, 2018, the General Students' Committee of the University of Cologne wrote a Facebook post about construction workers dressed in clothing associated with the right-wing scene.

Hate campaign

The post unleashed an online hate campaign, rife with derogatory and relativizing comments. These negative comments received 6,052 likes.

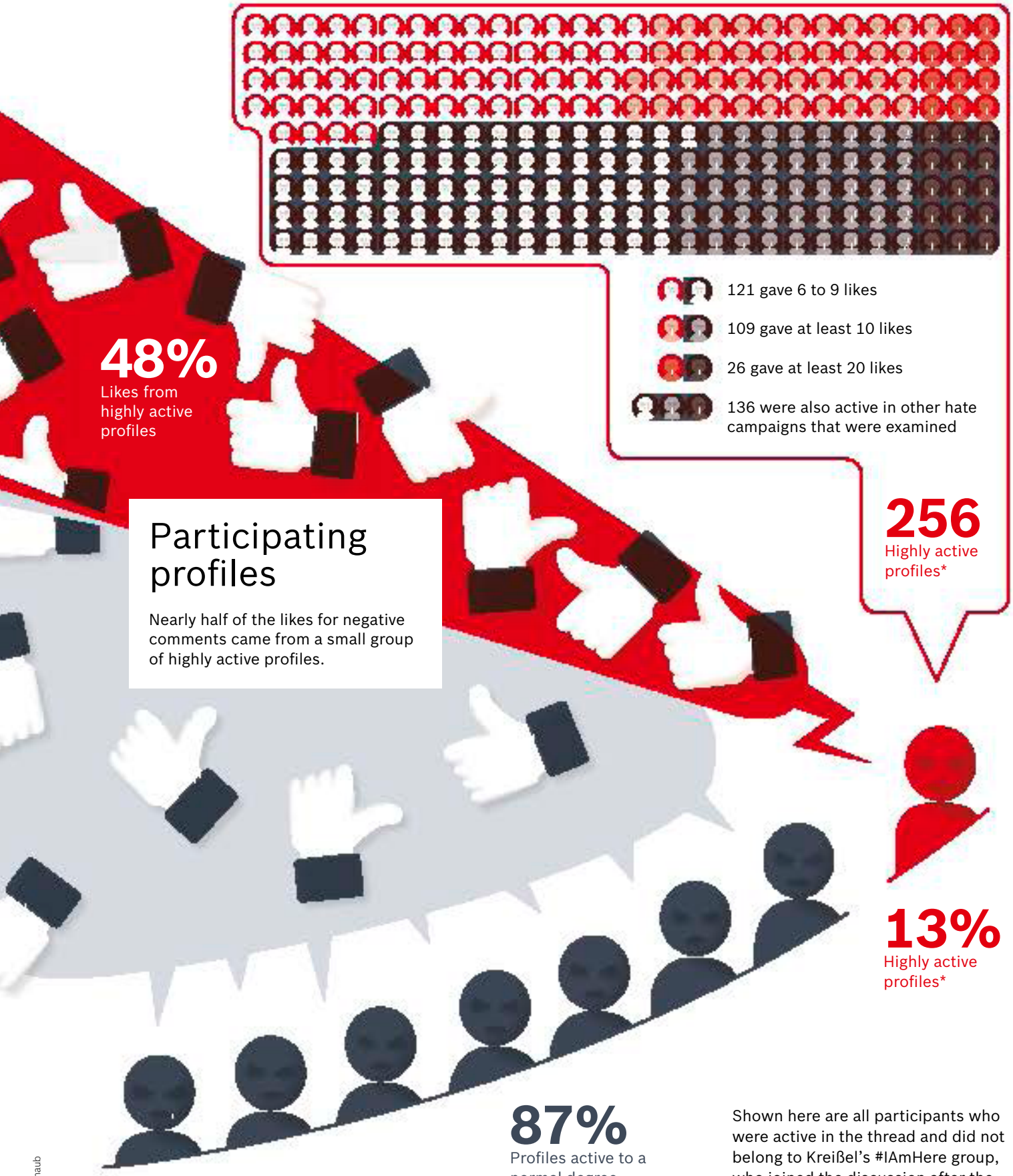
52%
Likes from profiles active to a normal degree

Vocal Minority

Philip Kreißel from the German online activist group #IAmHere has analyzed eighteen hate campaigns on Facebook and reached the following conclusion: a small group of those who post and like negative comments are downright hyperactive in this undertaking. We use a sample hate campaign, which was viewed by over 220,000 people, to show just how vocal this minority can be.

= 250 likes

= 250 profiles



48%
Likes from highly active profiles

121 gave 6 to 9 likes

109 gave at least 10 likes

26 gave at least 20 likes

136 were also active in other hate campaigns that were examined

256
Highly active profiles*

Participating profiles

Nearly half of the likes for negative comments came from a small group of highly active profiles.

13%
Highly active profiles*

87%
Profiles active to a normal degree

*Highly active profiles are those that use the “like” feature at least twice as many times as the average profiles do.

Shown here are all participants who were active in the thread and did not belong to Kreißel’s #IAmHere group, who joined the discussion after the hate campaign was already underway. #IAmHere strives to combat hate content on the Internet.

Illustration: Josh Schaub

The Lights and Darks of Digitalization

The two people we show here in one room were actually in two different locations. The debate was held via video conference.

INTERVIEW
Martin Petersen

ILLUSTRATION
Studio Pong

A discussion with German intelligence expert Thorsten Wetzling and Hong Kong-based US journalist David Bandurski on the benefits and dangers of digitalization for civil society.

“There are lots of tools that can be used by state and private entities for a wide range of purposes, some good, some nefarious.”

Thorsten Wetzling

Around the world, digital development is rapidly advancing. What are the major gains for civil society?
Wetzling: There are a lot of opportunities for civil society organizations, academia, and other players to come together more quickly and to work collaboratively on specific tasks. For instance, there is our own project work that relies on various digital tools to coordinate the work with our research partners in Paris and London more effectively. Civil society groups also come together in virtual forums to conduct strategic litigation, say, against security legislation. If they fear that the state has gone too far in terms of infringing civil rights, digital tools can be harnessed to engage more productively in national comparisons or to bring in an expert from abroad. We may also set up collective databases so that journalists and civil society organizations can find resources more quickly.

David, how do you think digitalization benefits initiatives and movements across the world?
Bandurski: For our work at the China Media Project, we’re dealing with journalists, intellectuals, and academics in China. But it’s been consistently – for over two decades now – the case that we’ve been dealing with a leadership that is determined to not just control information, but to put curbs on civil society. If we think of social media tools – in China, we have Weibo and WeChat – they are both super for surveillance and interactivity. This is what always makes them deeply, deeply problematic. If we look for ways that Chinese people are using technologies to interact and maybe make certain inroads, the feminist movement is a good example. It’s basically networking but without a network, because these tools are also monitoring you, and the Chinese Communist Party does not permit true networks to form and have longevity.

How can civil society make even better use of the potential of digitalization in the future?
Wetzling: One thing that we are currently trying – with the help of the aboutintel.eu blog – is preparing online debates among diverse stakeholders on surveillance. The topic is not confined to Asia; in Europe we also have to address the issue that lots of tools can be used by state and private entities for a wide range of purposes, some good, some nefarious. Gradually, we are seeing that governments are showing more readiness for dialog because the resistance and contestation in civil society is now more coordinated. Digitalization has, in my view, contributed to this.

Which other digital tools have already proven to be of great use to civil society?
Bandurski: What we see – if I can switch to Hong Kong for a moment – is in what a clever way the existing technologies are being used. For example, the police was looking out for people who were using secure, encrypted messaging on Telegram – 20,000 people, say, might be in such a Telegram group, but there has to be a visible admin account. To counteract this, someone created a bot that essentially anonymizes the host of this Telegram network. Even things like Tinder, which we don’t tend to think of as a tool for civil society, right? –

– Tinder is a dating platform –
Bandurski: Well, in Hong Kong, they have been using it as a platform to post

schedules for marches, for instance. So there's this kind of surreptitious use of technologies that are garden-variety in the West. Another great example is the use of the green laser pointers. This is the way to cheat the facial recognition systems. The protesters point the laser pointers at the cameras, which essentially disables them. There's this constant kind of cat and mouse game over the use of technologies as surveillance, and as an empowerment tool in Hong Kong. I think Hong Kong is a good litmus test of what we might see in other environments. We're seeing the transformation of Hong Kong, and the erosion of its freedoms, the true foundation of civil society, which must be based on the rule of law, protection, and civil liberties. This is why it has become more of a technological issue than it might have been before.

It's interesting to hear those examples. Thorsten, what do you think are the greatest dangers for civil society that come along with digitalization?

Wetzling: We are witnessing rapidly-evolving surveillance technology. Before Snowden, people had an idea that there was a lot of data collection going on, but now with biometric surveillance, voice and face recognition, there's a lot of new technological possibilities and there are plenty of risks to established rights and democratic principles such as effective independent oversight and transparency. Oftentimes, technology is not necessarily developed and designed with due process and fundamental rights in mind. It's more like: "Hey, this is fresh data – we should use it."

Are we in the process of a worldwide surge of state surveillance and control?

Wetzling: You can look in every corner of the world at the moment and find risks to democratic practice. In Israel, for instance, there is live surveillance of the entire population taking place. In some countries, such as Hungary, the governments are calling states of emergency in response to the coronavirus pandemic, and the powers that the governments have acquired may well not be relinquished so easily. We must remember how long it has taken for some countries to acquire essential rights and freedoms and how quickly these may disappear again.

Thorsten Wetzling heads the research on surveillance, fundamental rights and democracy at the Stiftung Neue Verantwortung, a think tank for digital technologies, politics and society based in Berlin. He is editor-in-chief of the aboutintel.eu blog and created the European Intelligence Oversight Network (EION). He is also a principal investigator in the collaborative research project GUARDINT that addresses the gap between transnational surveillance practices and national accountability mechanisms.

What needs to be done?

Wetzling: There needs to be a strong civil society, and there needs to be parliamentarians who have expert knowledge readily available to them, so that they can put legal safeguards in place before passing new bills. The evolution of technology poses a big risk because it doesn't go hand in hand with safeguards. There also needs to be strategic litigation, there needs to be people who have civil rights in mind and who say "Look, does the law really do what it says?" We need the laws to be more precise

and backed by sanctions should governments overstep their mandate. To achieve this, we need to push harder on reporting obligations. Reports by the government or security services are important, but so are the reports by oversight bodies about the tools and instruments they use to hold the executive accountable.

The European Union and its countries are often referred to as having a strict stance on data protection. Do they live up to their reputation?
Wetzling: Clearly there are grave risks in Europe, too. Although we have a data protection directive and we have gone further than some other countries in writing data protection measures into our laws, this doesn't mean that we always put this into practice or that European governments are not tempted to curtail the spread of encrypted communication, for example.

How far are EU states going in actively collecting their citizens' data?
Wetzling: I don't want to say that every infringement of our rights is due to sinister motives, but of course there's a documented interest on part of many players – both on the corporate and on the government sides – in gathering as much data on citizens as is legally permissible. There is also this premise that Europe wouldn't be doing itself a favor by investing too much into data protection, because some things would be much easier without it. I think that's a false premise, because data protection and efficiency are not diametrical opposites. There can be a lot of interesting progress and we are seeing that with some apps that are being developed: there's a whole market for privacy by design and making use of digitalization in a way that empowers people to opt out and have their say.

Can you give us a positive example of where data protection and efficiency come together?
Wetzling: In Germany, for instance, there was this heated debate around the creation of the tracing app for coronavirus patients. Interestingly, at one point the government stopped and said they had changed their mind. Although they had already invested significant resources into making an app that stores this sensitive information on a centralized server, they decided to cancel that and switched their focus to a solution with locally stored data. I hope that this new solution will ensure sufficient data protection. So at least there was openness to debate, mutual learning, and a preparedness to engage with different arguments, which strengthens us as a country and civil society in the long run.

David Bandurski is a researcher and lecturer at the Journalism and Media Center (JMSC) at the University of Hong Kong and a former Richard von Weizsäcker Fellow of the Robert Bosch Academy in Berlin. For more than twelve years, he has been leading the independent China Media Project, a globally renowned resource on China's media landscape.

David, Thorsten already mentioned that all states have an interest in collecting data on their citizens. Could you push it further and argue

that surveillance and data analysis are generally beneficial for a society?
Bandurski: This is a case that's made every second of every day by the Chinese authorities. I would say the biggest engineering project that China has is control of information and public opinion – and they sell it to the public as beneficial to society. China has two other big projects, one is called Sharp Eyes; in China it's referred to as Project Dazzling Snow. This is a project for rural areas, and the goal is to install around 200 million cameras. For the urban areas, there's a different project called Skynet. The idea is to link the surveillance cameras with facial recognition technology – this has already happened in some cities, like Shenzhen – to create what will eventually be a national database.

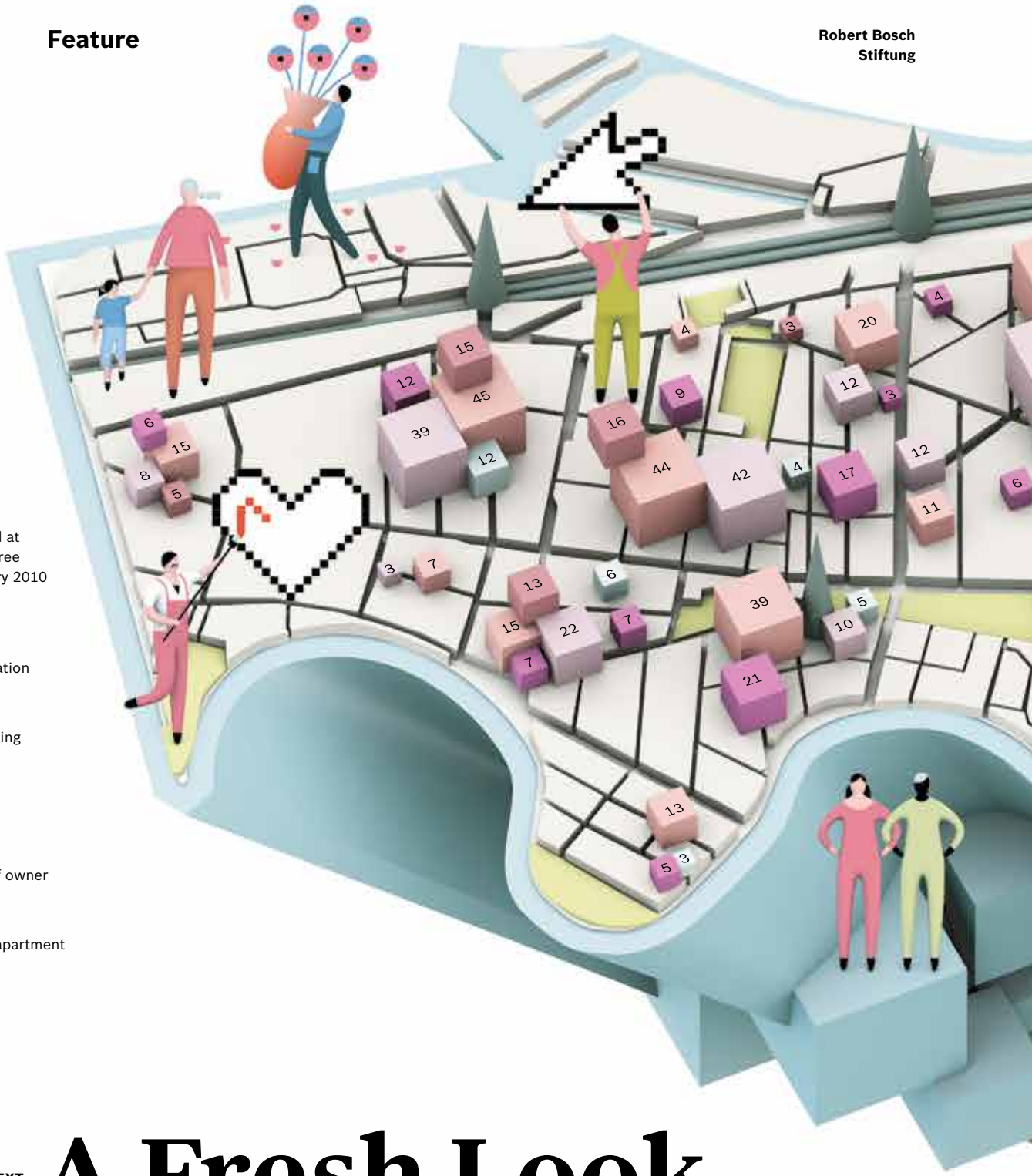
Is there an explanation as to why this is being set up?
Bandurski: The reason is that the law enforcement wants to know what's happening at any place, at any given time. One of the things they did to effectively – as they say – deal with Covid-19 was to police and isolate Covid-19 patients by using the surveillance grid system that was already in place across the country for general social surveillance, security, and regime stability purposes. Humans monitor these grids locally, which essentially divide the country up into manageable quadrants. In addition to facial recognition cameras, the authorities are also installing scanning devices for mobile phones. So it's really a combination of digital technology and this existing human system of surveillance and gridding.

How does the usage of all this technology resonate with the population?
Bandurski: I think we have to recognize that China really leapfrogged and went straight into a kind of mobile-driven era. Things like consumer financing and buying things with your cell phone are still brand new and exciting, even in 2020. And there's a legitimate point that Chinese people make: that their lives have improved in a sense. They can express themselves, and I mean in a very basic sense, they can generate their own content, whether it's TikTok videos, or chatting about what they bought during the day. Everyone feels empowered in a way that they never were, and this is a really, really powerful impulse, to see technology as a net good and not to look at the flip side of it. We in our open societies tend to see the dark side, the potential for abuse, but in China, because there isn't a discussion, and the mechanisms that Thorsten's talking about aren't there – people often don't see this darker side. They are not literate in the risks of technology. This is not to say that we are literate about these in Germany or Europe, or the US, but at least we are having a conversation. Picking up on what Thorsten said, I also found a lot of it very encouraging. One thing that really behooves us to show in our societies is the ways that we can achieve better and more efficient democratic systems with the technologies.

“In Hong Kong they have been using Tinder as a platform to post schedules for marches.”
David Bandurski

What do you think civil society can contribute towards counteracting the dark sides of digitalization?
Wetzling: They can look into different policy fields and say, for instance, what can we learn from auditing done in the banking industry? Or, in the field of police and intelligence, different societies are facing similar challenges, so you don't have to reinvent the wheel. Sometimes there are solutions to a particular problem that minimize civil liberty infringements, and it's important to identify those. However, there's so much legalese, there are so many technological documents that only a handful of people can really decipher. Civil society has a role to play here, I think, by helping to break down complicated questions of policy, to publish them in a language that people can understand, and to help citizens to engage more directly in open conversations about the best way forward.

David, Thorsten, thank you very much.

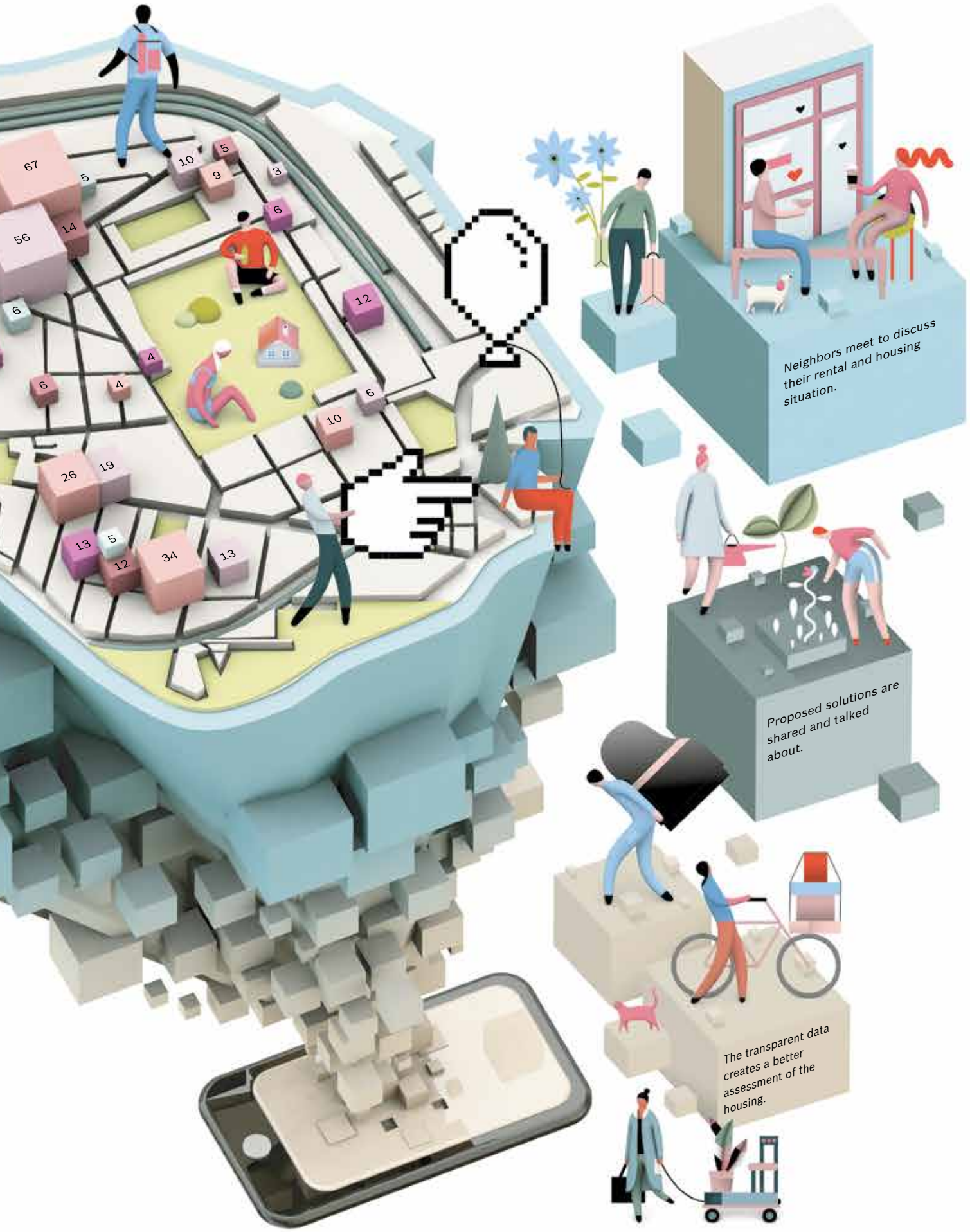


TEXT
Nicole Zepter

ILLUSTRATION
Doreen Borsutzki

A Fresh Look at the City

Why citizens' initiatives are relying on digital maps – an example of critical mapping from Berlin.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Neighbors meet to discuss their rental and housing situation.
Proposed solutions are shared and talked about.
The transparent data creates a better assessment of the housing.

Most tenants don't know who owns the building they live in," says Susanne Torka, 67, sitting in B-Laden, an office for neighbor-to-neighbor assistance in Lehrter Straße in Berlin. Torka is the co-founder of "Wem gehört Moabit?" ("Who Owns Moabit?"), an initiative that aims to create housing transparency in the district. The construction boom of the last twenty years has changed the cityscape. Buildings have been modernized and sold, which has unsettled tenants and long-established shopkeepers. This is one reason why Torka's office has become a central meeting place for tenants, both new and old. Her initiative is based on the idea of civic involvement: everyone is invited to share information about their housing situation. This input is creating a clearer picture of the neighborhood's ownership structure, revealing which buildings are owned by housing associations, international investment companies, cooperatives, and individuals. In 2009, Torka distributed around 10,000 questionnaires together with other members of the initiative. The results showed where modernization and massive rent increases had caused tenants to move out. The initiative set up working groups and founded a housing cooperative. Today it is using a digital map as an information tool. With it, a new form of civic involvement has become possible: residents can now directly record the changes in the neighborhood.

Cities change; they are drivers of the economy and centers of innovation. Most of all, they are environments in which residents shape their lives. In many countries, neighborhood initiatives are using maps to visualize developments in the places they live and to initiate change. The research project "Critical Mapping in Municipalist Movements," which is integrated into the Institute of Urban and Regional Planning at Technische Universität Berlin and is funded by the Robert Bosch Stiftung, is studying the effects of digital mapping. In addition to Berlin, the research team is focusing on Belgrade and Barcelona. "We're interested in what these tools mean for so-called municipalist movements – citizens' initiatives that aim to shape the city at the local level, beyond high-level politics and established parties," explains project director Andreas Brück. The goal is to investigate the potential of critical mapping: "We want to understand urban transformation, but also the strategic countermeasures taken by initiatives."

Maps are never neutral; they illustrate power structures. For a long time they were the privilege of the powerful few who negotiated borders and made decisions about infrastructure. Today maps are ubiquitous: they are always with us on our cell phones and are constantly being generated with the help of GPS data. Surveying

"Maps are never neutral; they illustrate power structures."

expertise is no longer necessary; cartography has been democratized. In Susanne Torka's case, maps take the form of a free online platform, crowdmap.com, where every user can upload information. Torka reviews the entries and approves them for publication. The focus is on developments in the buildings – how tenants are being treated, whether apartments are being rented out to tourists, whether there are vacancies. So far, most of the entries have been made by the initiative's members. "We often gather information at stands and add it to the map," explains Torka. She hopes that more neighbors will take part – "To reach them, we need to do more advertising," she says. Even now, though, the work is helping people: in some cases, potential tenants have decided not to rent apartments because the owners have notably poor ratings.

Critical mapping can help pinpoint, visualize, and clearly communicate problems. It can also be used to address a broad range of topics. Some initiatives map vacant properties to make intermediate uses possible and illustrate an overheated real estate market in the neighborhood. Others mark areas in the city in which people feel insecure or make suggestions regarding public transportation.

Members of the research project "Critical Mapping in Municipalist Movements" are examining different topics that are being addressed and mapped by initiatives. Housing is a central issue. Each of the three cities under study – Barcelona, Belgrade, and Berlin – are affected by housing conflicts, says Brück. "At the moment," he adds, "housing has a dynamic that is mobilizing people. We view it as a broader concept that goes beyond actual housing and includes people's concerns about their daily livelihoods." Recreational opportunities and access to education are as much an object of study as is the percentage of a person's income that goes to housing. Evictions and the problem of apartment rentals to tourists are additional issues that the initiatives are studying as part of their efforts to develop alternatives.

Entering data into Excel tables would have been far less effective than using a visible interactive map, says Susanne Torka from the Moabit initiative. However, change always depends on people. "A map is an information tool. If tenants want to achieve something with it, they have to band together."

Participation for All

We are transferring real-world inequality into the digital sphere, says computer scientist Catherine Mulligan. She calls for the courage to think differently.

2020 has been a watershed year as global digital inequality has been placed into stark relief. Due to Covid-19, millions of children are missing out on school: others are being taught digitally. Similarly, a dramatic line has been drawn between those who can work remotely and those who cannot. Previously, digital exclusion was often viewed as something that could be put off for later, but the last few months have illustrated that digital inequality is real and an issue in nearly every nation in the world.

When we wrote the UN High-level Panel report on Digital Cooperation, we did not foresee that our section on digital inclusion would have such relevance so quickly. Our recommendations for every adult to have access to digital networks, as well as digitally-enabled financial and health services certainly resonate well in today's world and not just in lower income nations – the fault lines of digital inequality are clear across all countries from the Global South to the USA and UK as schools in deprived areas are just as unable to deliver education as those in the Global South. The report suggested that private sector, governments, NGOs and civil society should work together to deliver full digital inclusion and enable data sharing for delivery of the Sustainable Development Goals. It is now more important than ever for us to ask ourselves: what does full digital inclusion mean?

Digital inequality is deeply seated in inequality itself – and in our preconceived ideas about how the world works. It is our accepted norm that some people/countries get "less," while others get "more." This is a norm solely because we have accepted for several generations that this is the way things are. This continues today in the digital world and hampers the ability for individuals and nations to fully embrace digital technologies.

As humans, we tend to blame the grand sweep of history for industrial and societal revolutions – as though we had no choice. Ultimately, however, humans caused these events, affected them and directed them. In the same way our current digital revolution is in our hands, but we must challenge ourselves to not just think differently, but also act differently. In order to overcome digital inequality, we need to overcome some aspects of inequality itself and these cannot be treated as separate things.

Humans are simultaneously extremely innovative and tremendously narrow-minded about the potential of digital technologies. Since the advent of the silicon age in the 1960s we chose to recreate the digital world in the image of the existing physical economy; an economy that is based on inequality between capital and labor that has formed society for centuries. Inequalities in the real world have merely been transferred to – and often compounded – in the digital one.

For example, we are told we must accept inequalities in the accumulation of data for all sorts of reasons – the costs of storing data, the level of investment needed, the skills required in analytics. This means that data monopolies have been created and exist in a small number of corporations and in a small number of nations.

Recreating the digital world in the image of the physical one has also just not worked – it has created an incredibly brittle economy overly dependent on centralization and multi-national corporations; an economy that grinds to a halt if one part falters. This has been presented to us as an inevitable natural process; but it isn't. Overcoming inequality requires greater resilience in our economic system. The basis of the physical economy – land, capital and labor – really don't have the same meaning within the digital realm and this is being ignored.

The digital world requires a new social contract – one that demands a rethink about what labor looks like when so much of our data is used for commercial benefit. Policy-makers so far are looking at important but small things like privacy while failing to address the wider implications of digital. We are therefore sleepwalking into even higher levels of digital inequality – paradoxically by our intention to do good.

The reason digital inequality is so complex is because it reflects real-world inequality. Those without access are usually in a nexus of exclusion – merely having connectivity does not guarantee you have the education, electricity and employment to make effective use of it. Indeed, many nations can buy digital technology but struggle to apply it effectively – this productivity paradox is clearly seen in the UK.

Failure to take the full spectrum of digital inequality into account, therefore, merely compounds the impact of digital exclusion; you might be able to connect but only ever as a participant contributing data to monopolies housed in other nations, never as someone fully empowered to reap the economic and social benefits yourself. The balance of

Text: Catherine Mulligan

“In order to overcome digital inequality, we need to overcome some aspects of inequality itself and these cannot be treated as separate things.”

Dr. Catherine Mulligan
is an honorary senior research associate in computer science at University College London and co-director of the Centre for Cryptocurrency Research at Imperial College London. She was a member of UN Secretary General António Guterres’ High-level Panel on Digital Cooperation. This group of experts developed recommendations for how our digital future can be designed for the good of all and in the spirt of the UN’s Sustainable Development Goals.

digital power is an important question when assessing digital inequality; many narratives focus on “advanced” countries and “those that need help.” A critical aspect governments, private sector and civil society need to think through properly is: what is the global social contract around digital? Without this, it can become a form of digital colonization.

Often when I raise this point, people raise cryptocurrencies as an example of how the average everyday person can “win,” not merely participate in the digital world – but is this really true?

Bitcoin emerged during the 2008 financial crisis. The first truly peer-to-peer currency, Bitcoin’s inventor(s) behind the pseudonym “Satoshi Nakamoto” outlined a way to remove the need for banks from value exchange between individuals. Leaving aside the mystery surrounding Satoshi and roller-coaster valuations of cryptocurrencies, Bitcoin’s biggest achievement is the thought experiment it launched. Rather than merely recreate the existing financial system of centralized control by government and large companies, Satoshi instead took full advantage of the digital world to create a currency run by the people for the people.

It was a bold idea and led to significant wealth creation for some people. It has not yet, however, done much to overcome inequality – digital or otherwise. Cryptocurrencies for me are highly illustrative of the narrow mindset often applied around digital technologies – technology does not exist in a vacuum and needs to navigate a complex set of political and corporate interests. A decentralized approach makes many people uncomfortable – particularly those that have deep vested interests in our current economic system.

This is the same problem that many of the solutions proposed to overcome digital inequality also face; not technical problems, political ones. Giving people full access to the economic system via digital technologies across all nations as full equals often makes people just as uncomfortable as decentralization does. It requires us to think differently about the underlying forces of ownership of data and other digital assets and forge new norms for interaction. Some people will lose power and so we need strong political will to achieve it.

Digitally enabled decentralization – not solely cryptocurrencies – can redefine more than just money – it can empower us to create a different world and apply innovative ways to connect local with global, small with large and multinational. It frees us to not just imagine a world with digital equality but to build it too; we just need to realize it like Satoshi did. Digital co-ordination of decentralized economic activity could enable a balance between local economic growth and globalization in a way that is beneficial to – and equal for – all, where data created by individuals is used to increase their agency and grow the economic capacity of the nation they are living in, not only global data monopolies.

It will take courage to drop our established ideas about digital inequality and it will take deep thought; it is the challenge of our generation – we must rise to it and build the political and citizen will to do it.

The Crucial Test

The coronavirus crisis has posed enormous challenges for all schools. Those who already had experience in digitalization were at an advantage. A look at three schools in Germany.

A crossed out cell phone symbol is displayed on the glass entrance of the 1960s pavilion in the Hamburg district of Bahrenfeld. Blackboards hang on the walls. In the classrooms of Max Brauer School, a multi-award-winning progressive school that is also regularly praised for its forward-looking digital profile, the students are familiar with the sound of squeaking blackboard chalk. How does all that fit together? "Pretty well," says Stefan Zelle, who has been the school's media officer since 2012. Zelle has a long ponytail and a thick beard – he has a captivating calmness about him. When asked what exactly the school's digital concept is, he answers with a smile: "We actually follow more of a no-concept approach." Working with mobile devices and using social media and apps in lessons is so natural here that it is no longer regarded as something special. The school regulations have long allowed students to use their own tablets or laptops for lessons. Getting there wasn't a straightforward process, however. "We have always invested in digital technology when there was a specific need for it," explains Zelle. For example, if the art department wanted to use laptops in lessons. In such cases Zelle himself then acts as an advisor "and as a facilitator." As a result, the school has become digitally more literate with each passing year, without ever needing to concretely formulate that as a goal. "Digitalization is not an end in itself. We always start with the question: what's it for, ultimately?"

The progressive school encourages personalized and independent learning, and that right from elementary school, where the children work with their teachers to develop work plans, which they then

Text: Jan Abele | Photo: Christian A. Werner

implement independently. Digital media is an important requirement because the students may all be sitting in one room, but they are all working on individual subjects that are of interest to them. How do they coordinate the personalized lesson plans? Doesn't that involve a huge amount of work for the teachers? "No," answers Zelle. Again in this case, digitalization is more of a blessing than a curse. "All the teaching material we develop is available to all teachers as a matter of principle, and is handed over to the next grade every year." By now, the school has an enormous digital archive of material that has proved useful in lessons and that can be integrated relatively easily into the individual work plans, Zelle explains. "However, that only works because we are a united team of teachers, each happy to share own knowledge and the results of own work, and prepared to upgrade on digital skills."

When we conducted this interview with Stefan Zelle in the deserted school shortly before Easter 2020, it was still impossible to predict when schools could re-open in light of coronavirus concerns. Since then, schools in Germany have re-opened on a restricted basis. One lesson can already be drawn: when faced with the Herculean task of switching from classroom teaching to decentralized teaching in just a few days, schools that had already used digital technology in the past were at an advantage – the students and the teachers were simply better prepared. That is also confirmed by a telephone conversation with Matti and Ake, twelve and fourteen years old, two friends who attend Max Brauer School. "We already knew how the apps used for homeschooling lessons worked," explains Ake. Teachers upload tasks onto platforms such as "Schulcloud," and the students are then responsible for preparing a weekly work plan in which they set out their learning objectives. "And when we need help, that's all really easy via Schulcloud," explains Matti. "We also frequently upload videos showing what we're doing in our free time." That's all somehow helped to make him feel closer to the school and his classmates. "Learning is far more fun when you have these kinds of options. And you're also much more productive."

Top
Stefan Zelle, media officer at Max Brauer School in Hamburg, can access an archive of digital teaching materials from home.

Right
Twelve-year-old Matti didn't need to learn how the learning apps work when homeschooling started – he was already familiar with them from school.

At the end of March, the German government decided to allocate €100 million from the "Digital Pact" (an agreement between the federal and state governments for better equipping schools with digital technology) to expand digital teaching during the period German schools would be closed. That was due to the fact that there is a significant social dimension to the issue. The School Barometer, a representative survey commissioned by the Robert Bosch Stiftung in collaboration with the German weekly *DIE ZEIT*, found that two thirds of all the teachers surveyed in Germany were not prepared when distance learning started after the coronavirus hit. In addition to a lack of equipment, the survey respondents

“We first had to take the topic of digitalization out of its niche and democratize it.”

noted their own shortcomings when using digital teaching formats as a reason for this. Not all students have ideal conditions for learning at home, and digital inclusion is often particularly limited for those from underprivileged educational backgrounds; but this is the very environment in which support through efficient communication and access to teachers is so crucial.

That problem is not new to Thilo Engelhardt, school principal at the Waldpark School in the Heidelberg district of Boxberg. When he joined the school in 2007, about 70 percent of the children in some classes came from families who relied on unemployment benefits. The concept of the school, which, like Max Brauer School, has been awarded the German School Award of the Robert Bosch Stiftung and of the Heidehof Stiftung, is geared toward individual learning, just like that of the Hamburg-based school. “We achieve this by working in smaller learning groups that provide more space for the needs of the individual, in addition to the large classes.” Having struggled with digitalization in this area in the past, the school has now fully embraced it.

In the beginning, they only had the traditional computer room, but meanwhile the students have access to more than 100 iPads, and every classroom has a visualizer, a smartboard, and a student PC. “We first had to take the topic of digitalization out of its niche and democratize it,” says Engelhardt, referring to the process of empowering students to use the media critically and responsibly in the first place. “Even if cell phones have effectively been banned in general classroom situations, it’s not realistic these days to ban smartphones from school outright. They’ve become an integral part of our everyday lives.” At first, Engelhardt was concerned with increasing the students’ awareness of the areas in which it makes sense to use a smartphone, and when and why they should be consciously put away. The use of WhatsApp, for example, is a major topic. Communication on this messaging service takes place so quickly that it is impossible for students to consider all the consequences of a message or photo. To improve the students’ media competence, the school is currently setting up a digital center in an area of the assembly hall, where they can borrow iPads and engage with various digital media, under guidance; even 3D printers are in the pipeline. Although the school already has the necessary resources, the project is currently in limbo as a result of the coronavirus crisis. It is quite possible that the center will be modified as a result of experiences the school is currently having. “The abrupt closure meant we, like every other school, had to improvise,” explains Engelhardt. Initially, the controversial app “Discord” was used to stay in touch with students. The online service for messaging, chats, and voice conferencing is particularly popular with computer game players, but it has also made headlines due to allegations that it is used as a communication channel by extremists. “We had to bite the bullet,” says Engelhardt. Another of the app’s shortcomings: the parents –

Photos: Michael Kohls

“It was good to know that the teachers could be reached quickly via the app if there was a problem.”

with whom contact is also important – are generally not on Discord. The advantage outweighs this, though: the majority of students were familiar with the app since they were already using it in their social and personal lives. And, unlike e-mail, it allows teachers to establish direct contact. Züleyha, fifteen, a girl in the tenth grade at secondary school with the aim to continue her education at a business high school, would have had to study under even more difficult conditions if she didn’t have Discord. “It wasn’t always easy to concentrate. So it was good to know that the teachers could be reached quickly via the app if there was a problem.” She was aware of issues such as cyberbullying. “The school has prepared us quite well in terms of how to use these kinds of platforms.” Good media training aside: Engelhardt’s future plans do not involve Discord. “We are currently working on a software that works in a similar way but that is on a secure server, over which the school has sole control and through which we can also reach all the parents.”

The security of data is a perennial issue. That is probably one of the reasons why there are still significant social reservations with regard to digital media. A study by the foundation Wübben Stiftung in 2019 revealed that around half of all teachers are critical of the use of digital technology in teaching. The study also shows that 49 percent of school principals believe that the advantages of digital media are vastly overrated. It seems that books, pens, and paper are still regarded as the most important badges of intellect in the land of poets and thinkers. That attitude isn’t completely alien at the academic high school St. Josef Gymnasium. However, change is possible, as the school in Dingelstädt in Thuringia shows. Here in the countryside, the students have digital facilities that would make many envious. Large-screen TVs, white-boards, and projectors are standard; every student from the ninth grade up has their own iPad, and teaching had already gone digital even before the coronavirus crisis hit. Stephan Reich, teacher and media officer at the school, explains over the phone that the school was “traditionally analog” when he arrived there as a trainee teacher. Then, in 2016, they began the journey to become one of “Germany’s most modern schools,” as the media would have it. “The catalyst was actually a discussion about giving the students programmable pocket calculators that could also display graphs,” explains Reich. “The state of Thuringia stipulates that each student must be provided with a calculator for math lessons, and the school management was wondering whether it wouldn’t make more sense to offer a tablet because they can be used more universally and offer greater value in teaching.” In the end it was all a question of numbers. While a pocket calculator costs around €150, parents would have to spend around twice as much for an iPad. The school management ultimately persuaded the relevant authorities to back the school’s digitalization efforts and to

make the funds available. The experience from these lessons produced a domino effect. Once teachers understand that the tablet isn't used for entertainment at school, but is a neutral tool used to illustrate and convey content in various ways, they can quickly adapt it for their own teaching purposes. As a result, colleagues from all subjects were gradually won over. Jonas Schröter, 18, who is currently in the middle of his secondary-school examinations in Germany and who was there as the school underwent its digital transformation, also knows all about the power and potential of the tablet. "If you ask me what the big advantage of digitalization is, I'd say it's the chance to get away from teacher-centered teaching – and the way students and teachers can work together more effectively and connectedly." The iPad facilitates individual group work, everyone takes part in their classmates' learning progress, and the medium often leads to numerous creative solutions. "I get the impression that direct feedback from the teacher via the new teaching aids helps all students advance in their learning process. Even if we, as Abitur students, might initially have doubted whether it would be possible to prepare properly for the exams while schools are closed, I think that the iPad and the avenues of communication it offers have meant that the quality of learning remained high."

When asked about that, teacher Stephan Reich gives a great example from his chemistry lessons. "I wanted to know which chemical processes a traditional pipe cleaner uses to unclog a drain." Reich uploaded a video in style of the educational film shorts in *Sendung mit der Maus* (a children's series on German television), and the students' answers were even more original. "Something like that shows how digital media can lead to creative solutions and to more lasting learning success as a result."

But he adds that there are also still things that aren't going that well. The facilities for children up to the eighth grade are still not up to the same standard as those for older students, and the greater time requirements of self-paced learning sometimes places excessive demands on students in homeschooling. "It should be possible for the students to contact the teacher directly," but that isn't always the case. "We need to standardize the communication channels more in this regard; some colleagues still prefer e-mails, while the students use Messenger." Conventional school practices – such as rigid time units and prescribed subject choice groups – limit the possibilities even more, he says. "Multimedia, interactive, and cooperative teaching doesn't work in 45-minute segments." But the good thing is that anything that doesn't quite work out right now provides valuable experience for the future. "The digitalized school is always a process. We are learning new things every day."

Left
Waldpark School's principal Thilo Engelhardt in Heidelberg has not only changed the school digitally, but also conceptually.

Top
Teacher Stephan Reich shares his knowledge in videos, and the students follow suit.

Photos: Anne-Sophie Stolz, Christian A. Werner

The Foundation of the Future

TEXT
Nicole Zepter

The Robert Bosch Stiftung has reviewed and realigned its work in the areas of Health, Education, and Active Citizenship with the goal of achieving greater effectiveness. Here we present the issues upon which the three areas will focus in the future.

Photos: Getty Images (3)

The New Topics in the Area of Education

"Learning" and "School Development / Development in Preschool and Daycare"

Education is vital for our society – it strengthens the individual as well as the community. Over the last few years, however, the subject of education in Germany has often been discussed in a negative context. The debate has been dominated by the Pisa shocks, the pronounced link between educational opportunities and social background, and the lack of teachers. Poor results in international comparisons on academic performance, the decline in the quality of education, and the rise in the number of students leaving school without a degree are increasing the pressure on education policy, education research, and educational institutions.

Social expectations of the education system are high, and there is a strong desire for change. Even if schools and preschools are seeing development, there is a lack of concepts and the courage to introduce genuinely significant reforms. However, these are necessary. Society is changing, and digitalization is revolutionizing the world of work and thereby also what schools are required to teach. The growing diversity of our society, with all the associated challenges, is also reflected in school classes and preschool groups. Numerous studies have shown that a large proportion of high school students feel they are not adequately prepared at school for their future careers. Many preschools still function more like daycare facilities, rather than working as educational institutions that foster the ability and eagerness of small children to learn. This also comes down to a lack of constructive exchange. Education policy in the European Union has the same problem as German education federalism: multiple independent countries or states pursue their own education policies, but there is no regular communication about successes, new ideas, and mistakes – not in the academic world, nor in politics or practice.

So how can the education of the future work? Education was a key concern for Robert Bosch his whole life. For him, education meant not only collecting theoretical knowledge but also the ability to apply the knowledge acquired. Bosch believed that education allows people to understand the complexity and diversity of the world, and to consciously fashion their role in it. The Robert Bosch Stiftung has a long track record of support in the area of education. That includes the German School Academy and the international Robert Bosch College UWC in Freiburg. The German School Award, which is presented annually by the Robert Bosch Stiftung, has become something of a beacon. It celebrates examples of how individual schools within the existing system do great work and are developing in very positive ways.

Even more needs to be done to make the school system better overall and to prepare it for future challenges. We must revolutionize the way we think about learning and fundamentally question our understanding of the school as an institution. Our future strategy in the area of education builds on this aspiration. In particular, the Foundation sees two courses of action for developing the education system effectively: on the one hand on the level of "Learning" and on the other on the level of "School Development / Development in Preschool and Daycare."

LEARNING

We must put greater focus on learning and teaching than has been the case until now so that the children and adolescents of today can thrive in the digitalized and automated work environment of tomorrow. In that world, people have to solve complex problems through cooperation. It is therefore necessary for our education system to not only impart knowledge, but to also put more focus on promoting creative, social, and technical skills. For example, the skill of finding solutions and answers that go beyond the customary and rule-consistent. Or the ability to work with abstract concepts, to analyze large volumes of data, and to understand the logic of IT structures. Confident handling of media and communication, creative problem solving, and organizational ability are the 21st-century skills an effective education must impart today. To achieve that, the quality of learning must be improved. It is well known that knowledge content is often reduced and overgeneralized in the traditional teacher-centered approach. In the contemporary understanding of the

Photo: private

term, however, learning is an active process that students carry out independently. For that, cognitive skills alone are not enough – the motivation of the students is also important. Under this model, the teacher's task is to boost the children's motivation, improve their learning processes, and provide support and advice as effectively as possible as they learn.

SCHOOL DEVELOPMENT / DEVELOPMENT IN PRESCHOOL AND DAYCARE

A school or preschool should provide children with access to a good education and ensure equal opportunity. If they are to meet this challenge, educational institutions must see themselves as "learning organizations." Organizational development is a long-term process that takes place on the level of an individual institution, for example the preschool or a responsible body, school, or school board – but also on the level of the system, for example in the cooperation between the responsible body and preschool, or between the school, school board, and patron. A learning organization is ideally in constant motion.

Accordingly, teachers, and educators must also see themselves as learners, reflect on what they do, and review the effectiveness of that work in order to continuously develop their institution. This results in a school that takes responsibility for itself. The age in which schools were mainly governed "from above" by means of laws, decrees, and directives should be well and truly over. Instead, school administrations, teachers, students, and parents should make necessary changes under shared responsibility. This is where the Robert Bosch Stiftung will come in with its support.

In the quality areas of the German School Award, a comprehensive quality framework for good education has been developed, which is recognized in the fields of research and practice across Germany. Building on that, the Foundation will consider schools and preschools as one whole in the future. In doing so, we aim to harness synergies, while also sending a clear signal that both educational institutions are of equal importance.

EDUCATIONAL ASSOCIATION

With the two topics "Learning" and "School Development / Development in Preschool and Daycare," the Foundation will support educational institutions and the education system with the work of designing learning situations in the future. To achieve that, all the Foundation's activities in the area of education will be pooled in one educational consortium. The Foundation's subsidiaries, the Robert Bosch College UWC in Freiburg, and the German School Academy in Berlin will also be part of this consortium. With a shared strategy, they will be able to work even more effectively toward the overriding goal: more good schools in Germany.

A CLOSER LOOK

How can we improve the quality of education in the future?
Education means not only reproducing information, it also involves understanding situations, solving problems with creativity and cooperation, linking different kinds of knowledge, and taking strategic approaches. Good-quality and ambitious teaching is key. It creates challenges and gives students a chance to determine how they learn. That applies to digital and analog learning environments in equal measure.

If modes of learning change, schools and preschools must also change. How can that be achieved?
Well-trained teachers and educators are the basis. That requires regular, high-quality further training after the initial professional qualification has been gained. And it also requires school management and faculty to have a clear idea of how learning processes can be effectively supported and improved.

Prof. Dr. Frank Lipowsky
The education scholar is a professor of Empirical Education Research at the University of Kassel. Lipowsky conducts research on the subjects of teaching quality and continuing education for educators, and he is a member of the German School Award jury.

The New Topics in the Area of Health

"A Health Care System for the Future" and "People in the Health Care System"

Health care provision in Germany is facing numerous challenges. More and more people are suffering from chronic diseases. The population is getting older, and elderly people require comprehensive care. The health care system, however, does not optimally answer to the demographic challenge. There is a shortage of qualified workers and approaches for cross-sector care, and the different groups of health care providers do not cooperate adequately enough to pursue the patients' health goals. The digitalization of the health care system is progressing only slowly. In addition, developments highly affecting health care systems such as globalization, new technologies, and climate change require more intensive international exchange.

Ever since it was founded in 1964, the Robert Bosch Stiftung has been working in the field of health. The starting point was the Robert Bosch Hospital in Stuttgart, which Robert Bosch established during the Second World War and which has now been under the Foundation's patronage for over 50 years. For Robert Bosch, health was more than simply the absence of disease. Health-promoting measures, the consideration of one's living environment, and health education were also important to him. We are still guided by this multi-dimensional understanding of health to this day. We stand for health care provision that is oriented towards people's needs and that supports the individual continuum of care. In our funding work, we build on our decades of experience in various areas of health care provision. As an independent player that can provide stimuli for continuous system improvements, our work in the area of health will focus on two topics in the future: "A Health Care System for the Future" and "People in the Health Care System."

A HEALTH CARE SYSTEM FOR THE FUTURE

The aim of the Robert Bosch Stiftung is to afford everyone in Germany high-quality, human-oriented health care provision now and in the future. To achieve that, the structures of the health care system have to be improved. A future-oriented health care system should strongly be geared toward the maintenance of health, i.e., focused on the prevention of disease and the promotion of health. Furthermore, it should ensure seamless transitions along the whole continuum of care – between out-patient facilities, hospitals, rehabilitation centers, nursing homes, and hospice services. Health care provision should take into account the living and social environments of patients and encourage them to undertake self-management.

To better meet the needs of elderly and chronically ill people, and to support them in a comprehensive manner, primary care should be enhanced: with multi-professional teams that provide care as closely as possible to the patients' home or work. Regionally focused primary care centers have been established in some countries, providing successful solution approaches and thereby a direction for achieving system improvements in Germany, too. The work done by such centers is particularly important in rural regions where there is a lack of doctors. They also offer the opportunity of making access to medical specialists more digital, without abandoning patients' wishes to maintain direct human contact. In order to be well positioned for the future, the health care system also needs effective measures to combat the growing skills shortage, as well as more flexible and open governance in order to respond to new challenges.

The Robert Bosch Stiftung will boost the future viability of our health care system by supporting projects of suitable, future-oriented care models in real-life settings. The Foundation has laid the groundwork for this over the last few years with its "PORT – Patient-oriented Centers for Primary and Long-Term Care" program. The "Restart: A Health Care Reform Workshop" initiative is another strand of support. "Restart" offers a platform for citizens and helps them in partnering with experts in developing visionary reform suggestions for the future.

Photo: Sven Darmer/DAVIDS

PEOPLE IN THE HEALTH CARE SYSTEM

The quality of health care provision is determined by people. The Robert Bosch Stiftung is keen to support citizens, patients, health care providers, and decision-makers in steering their actions toward health and a human-oriented health care provision, and to change the framework conditions to this end. That is why the second focus in this area of support is the topic "People in the Health Care System" – with numerous starting points on various levels.

The role of the patient is increasingly changing in the direction of more self-determination and participation. A number of health conditions can be controlled, and even avoided, by the patient through lifestyle choices. The Foundation is therefore active in empowering citizens and patients to stay fit and healthy, and in using the health care system according to their needs. We are also working to ensure that people with chronic illnesses still enjoy quality of life.

Furthermore, the Robert Bosch Stiftung wants to improve cooperation between various health professions and has been creating spaces in which doctors and nurses, for example, can learn together and from each other. Cooperation is important for the quality of care, but cannot be taken for granted in daily practice. In the field of the health care professions, we also wish to see the nursing profession applying their diverse competencies as effectively as possible in health care practice, and taking on new roles. We also step in with support on the management level in the health care system by providing a platform for international networking and problem solving. A future-oriented health governance will be dependent on decision makers who are continuously learning, internationally connected, and who operate flexibly in a way that is appropriate to the challenges they face.

BOSCH HEALTH CAMPUS

At the Robert Bosch Hospital in Stuttgart we are currently developing the Bosch Health Campus – a new center for patient-oriented state-of-the-art medicine with the focus areas of treatment, research, and education. Bringing together different areas of expertise in one place makes it possible to provide interdisciplinary care for patients.

A CLOSER LOOK

How can cooperation between the various health professions be improved?
Interprofessional competencies should be developed at an early stage, with shared learning experiences that are already firmly established in the curricula of vocational training and degree courses. That will make collaborations more likely to succeed in practice. This is important for emergency situations in which every intervention must be swiftly interlinked. However, older people with multiple illnesses also require the effective coordination between GPs, caregivers, pharmacies, and other professionals.

What are the questions to which our health care system has to find answers in order to be well-positioned for the future?
We have to find ways to care for the baby boomers and the increasing number of single people. Advances in digitalization and gene technology are promising, but they require a robust ethical framework and effective protection concepts. The German health care system should also position itself better in order to handle global challenges.

Prof. Dr. Heyo K. Kroemer
The pharmacologist is the chief executive officer at Charité Universitätsmedizin, one of Europe's largest university hospitals in Berlin. The former faculty director of the Medical Center at the University of Göttingen has been a member of the German National Academy of Sciences Leopoldina since 2018.

The New Topics in the Area of Active Citizenship

"Democracy" and "Immigration Society"

Our society is constantly changing, and the country is characterized by a growing diversity of cultures, ways of life, and everyday realities. The standard of living is high, and people in Germany have a strong desire for social cohesion. However, a part of society feels threatened by globalization and immigration. The country is also characterized by growing economic inequality. Upward social mobility remains difficult in Germany. Children from families with low incomes, low levels of educational attainments, or a migration background are often educationally disadvantaged. In this context, skepticism is growing with regard to the effectiveness of politics, as relevant social groups do not feel represented in the political system. The future viability of the democratic order is being questioned in Germany and across large parts of Europe and the world. The tone of debates is getting rougher, mainly in the digital sphere. Populist currents and anti-democratic positions that divide society have gained momentum. Faced with such challenges, how can we achieve good social cohesion and improve social integration?

Our founder Robert Bosch was committed to the democratic order and a liberal society of responsible, free citizens. Respect for human dignity and an understanding that the balancing of interests is a prerequisite for social harmony were fundamentally important for him. In that spirit, the Robert Bosch Stiftung has been supporting civic engagement for decades, and advocates a constructive approach to diversity. The area Active Citizenship, which will focus on the topics of "Democracy" and "Immigration Society" in future, builds on these experiences. As part of these topics, we want to assist courageous people and institutions in assuming responsibility and shaping a future-oriented life for all in our society.

DEMOCRACY

A strong democracy requires judicious, politically educated citizens who participate actively. However, democrats are not born – each generation must learn democracy anew. That is why the Robert Bosch Stiftung, in its future support on the topic of democracy, will focus on democratic competence and the issue of contemporary political education. This involves more than simply an understanding of how political systems function. Other important elements include the ability to conduct dialog and deal with conflict, the ability to change perspectives and deal with complexity as well as empathy, media competence, and critical thinking. As we pursue our aim of boosting democratic competencies, we will also place a special focus on the opportunities and risks of digitalization.

Democratic skills and competencies are a prerequisite for effective participation in political processes. Yet a large majority of Germans are unsatisfied with the opportunities of representative democracy and want better representation. The Robert Bosch Stiftung will intensify the international exchange on successful practices of participation, and support successful digital and analog approaches. Dialog-oriented civic participation formats can include very different groups and can make democracy come alive. They can get people interested in political topics and strengthen trust in political decision-making processes, ultimately strengthening democracy as a whole.

Our support on the topic of democracy will also include a distinctly European dimension – through international exchange and reciprocal learning. We thereby hope to contribute to a new debate on how to make democracy stronger.

IMMIGRATION SOCIETY

Germany is an immigration country and has a migration history spanning decades, including the so-called guest workers, (late) re-settlers, migrant skilled workers and the war and poverty refugees who arrived in recent years. These are all shaping the country and contributing to a growing cultural, ethnic, and religious diversity – a development that is expected to intensify in the future, according to

Photo: Rasmus Tanck

unanimous forecasts. Today, more than 25 percent of the German population has a migration background. One out of three families in this country has foreign roots – half of all residents in Frankfurt am Main, for example, have a migration background. Germany is in third place worldwide pertaining the absolute number of international migrants. However, the worlds of politics, media, public administration, education, and civil society still do not reflect this social diversity. Discrimination and limited opportunities for inclusion predominantly affect people with ethnic, cultural, or religious characteristics that are perceived by others as "not German." Hostility is on the increase, especially against Muslims. The situation in Germany has parallels in other countries that are also grappling with growing pluralism. Their experiences are also of interest for the Foundation's work.

The Robert Bosch Stiftung is keen to play a part in ensuring a good life for all social groups in our increasingly heterogeneous society. We want people with a migrant background to be able to participate in all areas of social life as a matter of course. For our future support on the topic of Immigration Society, we are focusing on life in municipalities. Because it is there – in city districts, municipalities, and neighborhoods – that people come into contact with each other in everyday life. This is where conflicts arise, and this is where we face the concrete challenge of shaping this cohesion between different social groups. We aim to support the development of municipal strategies on the integration and inclusion of immigrants. To do that, we work with municipal decision-makers such as district administrators and mayors.

The issue of good social cohesion is also a question of understanding and of balancing interests. Exchange between different social groups – less well-represented groups on the one hand, and well-established participants on the other – should feed into the development of practical solutions. For this, underrepresented groups receive support to help them become more visible and play a greater part.

Last but not least, the Foundation will – with fact-based information on the impact and potential of migration – seek to raise awareness for the concerns of immigrant groups and to bring back a sense of objectivity and rationality to the polarized political and social debate. The experiences and insights from the municipal support work will feed into the discourse on various political levels so that immigration is formed responsibly – for the benefit of all.

A CLOSER LOOK

Many people do not feel sufficiently well-represented, e.g., in politics and the media. How can that be changed?

Representation is the key to achieving equality. Equality is a promise given by our pluralist democracy, as elucidated in the constitution. We can only achieve this through quotas, which, in the foreseeable future, will lead to underrepresented groups establishing a practice of participation and building strong networks, after which quotas can be abolished again.

Integration is often connected with the requirement that immigrants have to adapt – is this what it's still about?

We have to leave behind the idea of making a continuous demand on migrants in society to integrate. Integration policy means inclusion-oriented social policy for all social groups and is carried out on a structural, cultural, social, and identification-related level. Only equal-opportunity inclusion and a recognition of all individuals can bring us closer to a realization of the democratic claim to equality.

Prof. Dr. Naika Foroutan
The social scientist is a professor for Integration Research and Social Policy at Humboldt University in Berlin and the director of the Berlin Institute for Integration and Migration Research.

In the Eye of the Storm

Extremism researcher Julia Ebner goes undercover online to investigate far-right networks.

In real life: Julia Ebner in London.

At a cursory glance, Julia Ebner's desk looks the same as those used by other researchers. The difference is that from here, Ebner enters worlds in which wars are being planned. Born in Vienna in 1991 and currently a PhD candidate at Oxford University, Ebner is an extremism researcher. She studies a social phenomenon that often begins in secret but can take extreme forms that on several occasions have shocked the world: before committing their crimes, the racially motivated killers of Christchurch, El Paso, Pittsburgh, and Halle radicalized mainly in far-right Internet forums. "Far-right extremism is nothing new," she says. "What is new is the way it emerges and the effects it has." In order to learn more about it, Ebner adopted different identities and went undercover in its virtual subcultures, including platforms such as 4chan and messenger services such as Telegram. "It's a misconception that extremist net-

Text: Jan Abele | Photos: Sophie Green

works only thrive in secrecy on the darknet. Often a mouse click is all you need to get from a YouTube video or a Facebook group to a corresponding forum," she says.

Her motivation to enter the eye of the storm is directly related to an incident that occurred three years ago. At the time, Tommy Robinson, one of the world's most influential ultra-right activists and founder of the far-right extremist English Defence League, showed up at her desk. Recording their encounter on camera, he accused her of spreading lies and then uploaded the video he made onto his YouTube channel. It was viewed there hundreds of thousands of times and led to massive threats against Ebner's former employer. Ebner lost her job because, with the help of social media, a far-right troublemaker was able to incite violence that threatens freedom of opinion and, consequently, democracy itself.

Virtual: Julia Ebner with her cover identity Jennifer Mayer.

Today, Julia Ebner works for the Institute for Strategic Dialogue (ISD) in London. Her experiences flow into the institute's studies and reports, which help governments worldwide to understand the new phenomenon of Internet radicalization and develop prevention strategies and solutions. Her fundamental research is also part of the current ISD study "The Online Ecosystem of the German Far-Right," which was funded by the Robert Bosch Stiftung and shows just how important it is for governments and public authorities worldwide to keep abreast of the dangers to society that emerge in online communities every day. In the course of her Internet research, Ebner noticed where she reached the limits of the medium. "You only get to see as much as other users, but I wanted to understand how the movements were strategically directed." For example, online forums yielded too little information to analyze the communication strategy of the Identitarian movement, a new far-right organization that is expanding rapidly in Europe. This is when the second phase of her research began: she continued to work undercover, but now in the real world. She developed the cover identity of the philosophy student Jennifer Mayer, imagining her life down to the last detail – "like a character in a novel." Using a fake Twitter profile, Ebner made contact with Identitarians and, disguised in a wig, even participated in the group's secret meetings.

When asked where she gets her courage, Ebner hesitates for a moment before responding that she has a certain degree of naivity and the willingness to take risks. "And the belief that anything is possible if you're willing to push limits." The fact that her mother is an actress may have helped, too, she adds.

We Are the Internet

Julia Althoff partners with YouTubers in developing videos on political issues.

Ten years ago, the Robert Bosch Stiftung launched an experiment with the German video production service UFA X, asking the following question: how can we reach educationally disadvantaged youth in presenting complex political issues? The project was called "You Have the Power" and had a pioneering role in the field of digital education for youth. The project team was given plenty of scope to explore how to successfully address young people about socio-political issues in the social web. This resulted in specialized knowledge that had been lacking up to that point in the field of extracurricular youth education. We were the first – which enabled us to forge new paths, experiment, and grow. Research was being conducted at the same time under the leadership of Professor Anja Besand at Dresden University of Technology, which contributed significantly to providing educational content to young people in new, different, and innovative ways. The research findings were so insightful, and our learning curve so steep, that we were able to explore and successfully implement new paths very quickly. Besides interviews and street surveys, there were also talk shows and a specially developed casting show. The latter was called "RAPutation" and centered around discovering Germany's best young political rapper. The jury was supported by German politicans such as Renate Künast and Cem Özdemir. YouTube wasn't nearly as popular of a media platform as it is today, and hardly anyone spoke of YouTubers at the time. Today, YouTubers play a vital role on the media stage. They are also the key for MESH Collective, an initiative that evolved from the experimental "You Have the Power" project. The MESH Collective editorial team is just an intermediary; the main players are the youths themselves, with their extensive reach. One example is the YouTuber RobBubble, who explains in one of his videos how the consumption of smartphones results in electronic waste. Another example is the YouTuber Nihan, who became popular through her beauty blogs but also talks about issues such as hate and xenophobia in her video "The worst comments we've ever received." Today, together with YouTubers and Instagrammers, we show how social issues can be presented to youth.

Media-savvy

Julia Althoff was the head of the "You Have the Power" project of the Robert Bosch Stiftung, which partnered with young people in developing media formats related to political issues. Today, she is head of the MESH Collective, an initiative that emerged from this project. Together with prominent figures from the social web and their significant reach, MESH produces socio-political videos for YouTube, Facebook, TikTok and Instagram.

Text: Nicole Zepter | Photo: Debora Mittelstaedt