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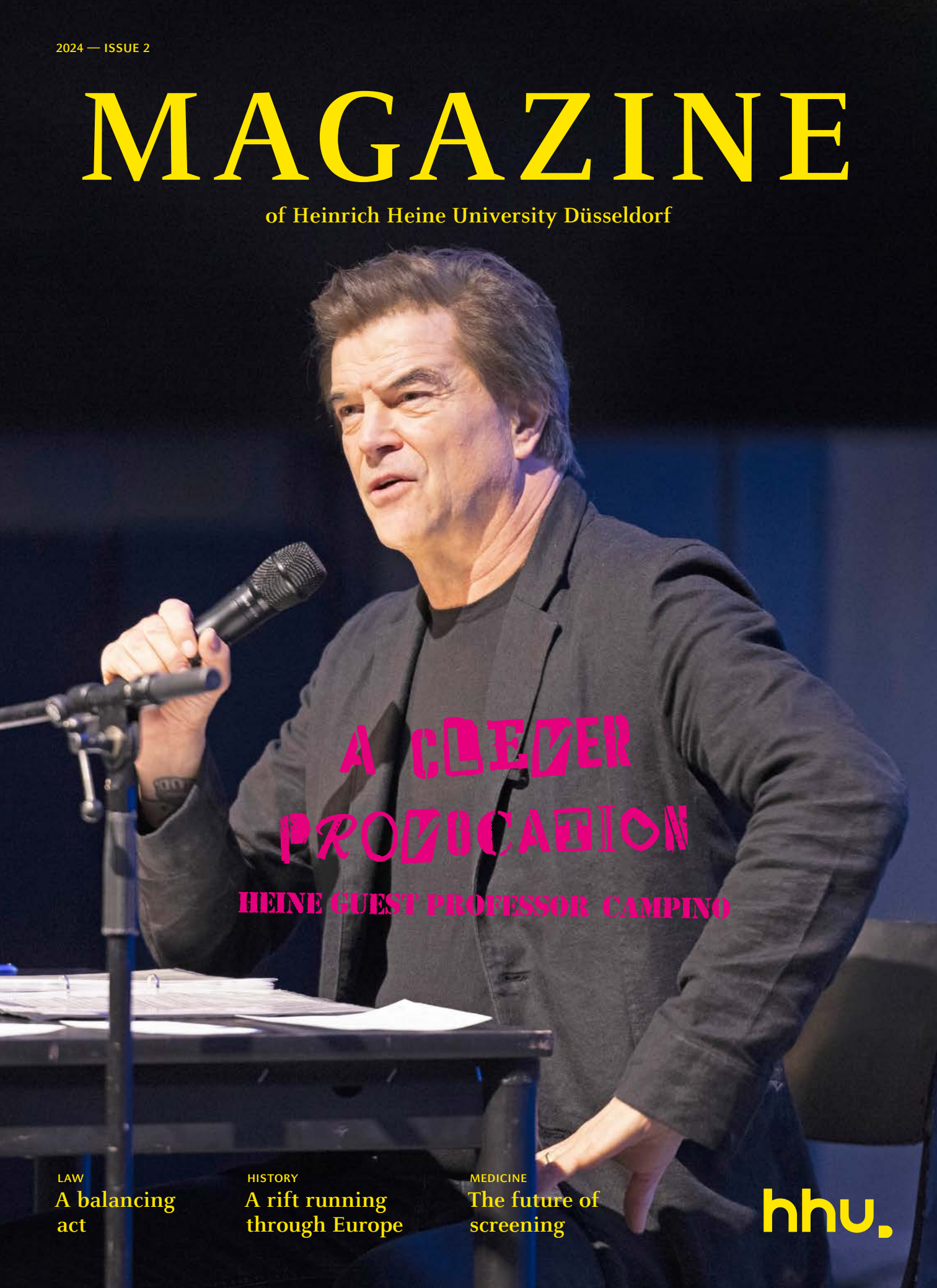

A CLEVER PROVOCATION

HEINE GUEST PROFESSOR CAMPINO

LAW
A balancing act

HISTORY
A rift running through Europe

MEDICINE
The future of screening

hhu.

2 — 2024

PHOTO PAUL SCHWADERER

Campino wowed the audience as the Heinrich Heine Guest Professor. An interview with the front man of the punk rock band "*Die Toten Hosen*" and an assessment.

Faculties

Faculties

PHOTO PICTURE ALLIANCE/ZB | SASCHA STEINACH

Protecting the rule of law poses challenges for the EU. Legal expert Sarah Kreutzer has examined how the EU can act against autocratic tendencies.

Legal notice

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Editorial

PHOTO IVO MAYR

Dear Reader,
Punk rockers becoming professors is perhaps just as rare as professors becoming punk rockers. Yet, HHU has now witnessed an exception: As the 2024 Heinrich Heine Guest Professor, Campino – the front man of the punk rock band "*Die Toten Hosen*" – has demonstrated that he is not only capable of wowing thousands of concertgoers, but also of rocking two lectures in HHU's big Konrad Henkel lecture theatre. It was fascinating to see how this venerable location, in which I also give my introductory lecture on a weekly basis, was suddenly transformed into an event venue. And the response to the Guest Professorship was overwhelming – both from those who attended the events live and the media in Germany as well as abroad.

The Magazine reports on this – let us say – "event of the century" for HHU in this issue. Further topics include HHU research on the rule of law in the EU, the historical (and returning) rift in Europe, how artificial intelligence can make pricing decisions in the blink of an eye, the future of screening in prostate cancer prevention and research on hungry bacteria with a special and productive appetite for substances we find unappetising. All these topics once again demonstrate the depth and breadth of the research conducted at HHU.

This is the last issue I will have the privilege of writing a foreword for. I will be stepping down from my position as Vice President at the end of October to focus more on research and teaching again. The comparatively easy task of motivating you to read the Magazine has been one of the many enjoyable aspects of my work over the last five-and-a-half years. I hope you will continue to read and enjoy the Magazine, and above all maintain close ties with HHU.

I wish you all the very best.
Kind regards,

Professor Dr Stefan Marschall
Vice President for International Relations and Science Communication

Protecting the rule of law poses challenges for the EU

A balancing act between sovereignty and intervention

BY CAROLIN GRAPE

Freedom of the press, freedom of opinion, independence of the judiciary, fair handling of opposition and minorities – these are the values on which the EU is based and all Member States have committed to upholding them. However, some Eastern European countries have been disregarding these principles for over a decade. Legal expert Sarah Kreutzer has examined what legal means the EU has at its disposal to act against autocratic tendencies. Such developments not only call the founding values of the EU into question, but also endanger its integrity as a community. It is not possible to expel a Member State. But how should the rule of law be defended?

ILLUSTRATION ELI ALAIMO DI LORO

The EU has various instruments at its disposal to protect its founding values, but not all of them are effective," explains Sarah Kreutzer. She gained her doctorate on this topic at the Chair of German and Foreign Public Law, European Law and Public International Law held by Charlotte Kreuter-Kirchhof.

One of the most important instruments is the procedure covered by Article 7, which was introduced with the Treaty of Amsterdam (1997). This procedure enables action to be taken against a Member State in the event that they violate community values: "Article 7 allows the EU to suspend the voting rights of a Member State in the European Council in extreme cases," says the expert.

In 2015, the ruling "Law and Justice" party (PiS) in Poland launched radical and far-reaching reforms in the country. In 2017, Poland became the first country the procedure was initiated against and Hungary followed in 2018. However, it proved largely ineffective: "The sanction process is complex and requires the approval of all Member States, so it becomes ineffective as soon as one State decides not to support it. Hungary and Poland repeatedly supported one another in the Council, preventing any unanimity," explains Sarah Kreutzer.

The rule of law conditionality regulation

In 2014, the Commission expanded the Article 7 procedure to include a preventive step and introduced an Early Warning System (EWS) with new framework regulations. If a Member State displays a tendency to violate the rule of law, constructive dialogue is sought with the government of the State at multiple levels. However, "unanimity remains a requirement. Accordingly, this procedure is only effective in the case of governments that are willing to eliminate constitutional deficits. Very little changed with regard to Hungary and Poland," says Sarah Kreutzer.

The EU therefore decided to go a step further. Alongside a new, annual monitoring mechanism introduced by the European Commission, the "Regulation on a general regime of conditionality for the protection of the Union budget", the so-called rule of law conditionality regulation, came into force in early 2021. "The regulation allows the Commission to exert financial pressure for the first time. It makes provision for the suspension of payments from the EU budget or the Structural Fund in the event that rule of law issues in the recipient country put the proper use of EU money at risk," explains the expert. The advantage is that unanimity is no longer required in order to initiate this procedure. Following proposal by the Commission and Council, its initiation can be resolved by a qualified majority, i.e. at least 15 Member States, representing at least 65% of the EU population.

In 2022, the EU applied the rule of law conditionality regulation against Hungary, freezing a total of 6.3 billion euros in EU budget funding. It then further increased the pressure by withholding funds from e.g. the Covid economic recovery package and the Cohesion Fund. The mechanism hits Hungary at its weakest point – its poor economic situation and high inflation.

Release of the funds is tied to 17 measures, which Hungary must fulfil in order to comply with EU requirements regarding the rule of law, budget controls and corruption prevention. Implementation of the measures is monitored regularly by the Commission – and less than half have been realised in full to date. Hungary needs to pick up the pace if it wants the much-needed money to be paid out.

Exerting financial pressure

Even though the EU has several instruments at its disposal, enforcing the rule of law remains a major challenge. Long response times, often-complex procedures and political hurdles such as the unanimity requirement in certain areas hinder the process. Autocratic tendencies will not disappear overnight and the EU needs to achieve a balancing act between sovereignty and intervention.

Accordingly, the legal expert concludes: "Dealing effectively with autocrats requires the coordinated application of multiple instruments to exert pressure at different points – on a tailored basis for each Member State. The focus should lie – at least for Member States unwilling to cooperate – on financial pressure. This was the only way to ensure compliance from Hungary."

> "The sanction process is complex and requires the approval of all Member States."
>
> **Sarah Kreutzer — legal expert**

A RIFT RUNNING THROUGH EUROPE

New perspectives on the pact between Hitler and Stalin

SOURCE WIKIPEDIA.ORG

BY VICTORIA MEINSCHÄFER

On 23 August 1939, Nazi Germany and the Soviet Union signed a non-aggression pact, which included a secret protocol. This document went down in (West) German memory as the Hitler-Stalin Pact. School knowledge – once you've learnt it, it's valid forever. Right?

Professor Dr Anke Hilbrenner (Chair of Eastern European History) disagrees. Together with Dr Jörg Morré, head of the Museum Berlin-Karlshorst, she has spent two years creating an exhibition that shows the Hitler-Stalin Pact in a different light. "The question of what the Hitler-Stalin Pact meant at that time and above all what it still means for us today divides Europe into different memory communities," says Hilbrenner. This became clear in 2019 as the Central and Eastern European countries submitted a resolution to the EU stating that Germany and the Soviet Union should take joint blame for the Second World War. "This contradicts the German notion of being solely to blame," says Hilbrenner. "At the latest after the historians' dispute in the mid-80s, it was clear for German memory culture that Germany bears sole blame and that the crimes of Nazi Germany are unique." While this resolution remained largely unknown in Germany and across Western Europe, it motivated Hilbrenner and Morré to create an exhibition on the Hitler-Stalin Pact. The aim was to involve students in the creation of the exhibition, while ensuring professional (and visitor-friendly) presentation by also involving a professional curator, Christoph Meißner.

Conceptual development questions

From 2022, Hilbrenner offered a seminar in each semester that not only addressed the topic of the Hitler-Stalin Pact, but also considered questions relating to the conceptual development of the exhibition. "One of the questions was: how do you present violence? Another was about how to select images for an exhibition." Students were particularly involved in the image selection and able to contribute their perspective on the past. A lot of different students took part in each semester of course, but some attended several of the seminars and one student, Alina Galster, actually attended all of them. "Research into the Hitler-Stalin Pact is so fascinating because it means such different things for each country affected by it. I liked the fact that a class

"The people there want their suffering to be seen and they want to question the memory politics of Western Europe."

Professor Anke Hilbrenner — historian

Signing of the German-Soviet Boundary and Friendship Treaty by Soviet Foreign Minister Vyacheslav Molotov, Moscow, 28 September 1939 (left).

relating to the exhibition was offered in the last five semesters as it gave us the opportunity to follow the process of the exhibition and deepen our knowledge from semester to semester." Not only students were involved in the conceptual development: People from affected countries participated in workshops and contributed their perspective ahead of the exhibition opening. "We conducted workshops in Chernivtsi and Düsseldorf, which met with great interest," says Hilbrenner. The Ukrainian city is also twinned with Düsseldorf and the university there became partner of HHU in 2022. "The people there want their suffering to be seen and they want to question the memory politics of Western Europe."

Badges commemorating the European Day of Remembrance for Victims of Totalitarian Regimes, 2022.

PHOTO MUSEUM BERLIN-KARLSHORST

And how do you present a pact? How do you explain the division of Poland and the fact that it was decided to assign Estonia, Latvia, Lithuania, Finland, Romania and Bukovina to the USSR sphere of influence? In the first instance, as a rift running through Europe – which then also became the exhibition logo. This rift is visible right at the start of the exhibition – Ribbentrop and Stalin drew the border as they imagined it on a map by hand. Stalin later added further minor amendments in red pen. This directly makes it clear what a large-scale – and absurd – project was planned here. At the same time, it makes you wonder how many of the borders drawn by Stalin in 1939 still apply today.

Historical connections and current consequences

Morré and Hilbrenner show both the large-scale historical connections and the consequences that can still be felt today. The result is an exhibition in five sections, each containing display panels that report on four different aspects: the geographical context, political consequences, impact on society and memories surrounding the Pact. "It was important to us to show the situation in which the Hitler-Stalin Pact affected people, as there was already unrest in the countries as a consequence of the First World War and the frequent redrawing of national borders." The exhibition organisers also wanted to tell the story from the point of view of the regions and not look at history from the German point of view as far as possible. For example, the names of the towns mentioned in the exhibition are written in the corresponding national language. This perhaps sometimes presents a challenge for German visitors, but it stands as a counterpoint to the imperial German

"It was important to us to show the situation in which the Hitler-Stalin Pact affected people, as there was already unrest in the countries as a consequence of the First World War and the frequent redrawing of national borders."

Dr Jörg Morré — head of the Museum Berlin-Karlshorst

SOURCE SA-KUVA

The Finnish nation pulled together during the Winter War. Women also played their part in the military defence against the Soviet Union. The members of the women's voluntary movement "Lotta Svärd" supported the soldiers by providing food and medical care. One of the so-called "Lottas" can be seen here serving coffee at the front (Nautsi, 17 February 1940).

SOURCE SA-KUVA

The Finnish army was outnumbered by the Soviet forces in the Winter War. However, as the defending troops were much more accustomed to the terrain and climatic conditions of the Finnish winter, they held out against the Soviet attackers for a surprisingly long time (Ladoga, 17 December 1939).

SOURCE SA-KUVA

Yet, despite their brave resistance, the Finns were forced to capitulate in March 1940. Finland lost significant amounts of land to the Soviet Union in a dictated peace. Consequently, the flags were lowered to half-mast the day after the peace treaty was signed as a symbol of mourning (Helsinki, 13 March 1940).

SOURCE NAC 3/2/0/-/3170

The visit paid by the Soviet resettlement delegation to Zakopane in the General Government demonstrates that there was cooperation between Soviet and German authorities above all when it came to the organisation of population resettlement and displacement (Zakopane, December 1939).

> “With the exhibition, we want to draw attention to the different views on the Hitler-Stalin Pact and motivate people to talk about it.”
>
> **Professor Anke Hilbrenner — historian**

view. It is also always made clear that the population of the affected regions pursued widely varying interests and was not by any means homogeneous. For example, the display panel about Poland states: “The population in the eastern border region of Poland was heterogeneous. Polish communists initially welcomed the Red Army. The Soviet occupiers instrumentalised ethnic conflicts that had occurred during the period between the wars and thus provoked violent altercations. After the annexation, Soviet officials took over the administration and began a process of Belarusisation and Ukrainisation of the areas, which soon turned into Russification controlled by Moscow.”

This large-scale historical timeline is set alongside the stories of individuals, which are presented on small extendible panels. There are three or four of these smaller panels detailing individual fates in each section. For example, a photo of a Polish boy is displayed whose school induction day did not take place due to the German invasion. Again and again, these elements make it frighteningly clear that human beings bore the brunt of the consequences of the Hitler-Stalin Pact; history on a grand scale is suddenly confronted by an individual.

Translations into various languages planned

“With the exhibition, we want to draw attention to the different perspectives on the Hitler-Stalin Pact and motivate people to talk about it,” says Hilbrenner. This is why – thanks to generous funding from the Citizens’ University (Bürgeruniversität) – the exhibition has also been translated into Ukrainian, while translations into further languages are planned. “We also invite visitors to take part in the exhibition themselves,” explains curator Christoph Meißner. “On the one hand, workshop participants can write comments about our exhibition on panels, which will then also be put on display. On the other hand, there is a large-scale map of Europe on which visitors can stick dots to indicate where the Hitler-Stalin Pact affected the history of their own families and briefly describe how on a card.”

“Unified under the three colours. Bessarabia is Romania.” Graffiti on a Romanian country road, 2015.

The exhibition runs in Lüneburg until 8 August and from 23 August in Berlin-Karlshorst. Further venues are planned in East Central Europe, Poland, Lithuania, Finland and Czechia – and of course in the Ukraine, as soon as the current war permits.


A CLEVER
PROVOCATIO
HEINRICH HEINE GUEST
PROFESSOR CAMPINO

PHOTOS MARCEL KUSCH

BY VICTORIA MEINSCHÄFER

The big event in April was the 2024 Heinrich Heine Guest Professorship, which was awarded to Düsseldorf punk rock legend Campino. The front man of the band *"Die Toten Hosen"* wowed audiences with two lectures, accompanied on both occasions by his guitarist Kuddel.

The Heinrich Heine Guest Professorship, which was a gift from the state of North Rhine-Westphalia to the University on the occasion of its naming in 1988, invites a variety of clever minds to the University. The audience learns about the Guest Professor's field of expertise and their take on society or literature. This year, Campino was invited. "His appointment was a clever provocation," says Dr Jasmin Grande from the "*Institut für Moderne im Rheinland*", "as it gave HHU the opportunity to break with a number of preconceptions". Campino took the audience on a journey through the Bonn Republic. Even though Kästner and Brecht formed part of the first lecture, it focused primarily on the history of the Federal Republic of Germany.

"He did something quite conventional that seems to happening a lot at the moment: Those who grew up in the Bonn Republic are considering the early days," says Grande. This is playing a major role in literature and can be seen in the many autofictional texts, which have increasingly been appearing over the past few years. And, in Grande's opinion, it clashes with the accusation made by the young generation that their parents' generation did not care about climate justice. "Since 1945, we have had the problem that every generation eventually comes to a point where they realise that they can no longer trust their predecessors and therefore want to overthrow them." Now, the baby boomers are making it clear that they also rebelled in their youth – albeit not about climate justice.

Standing on stage as an artist, not as an intellectual

Campino talked about an "us" that most people in the room recognised from their youth. He talked about the "us" of the Bonn Republic, when it was a case of turning against a public that did not trust the youth with a future and perceived them as a threat. Whether this "us" still reflects society today is questionable for Grande. "His 'us' in this case is white and heteronormative – and that absolutely does not reflect society and the 'us' at HHU. Yet, in both lectures, everyone in the room could adapt this 'us' as they all had the rebel vibe in their youth. There was something nostalgic about it.

Public interest was high: Before the first lecture, President Anja Steinbeck and Campino gave a well-attended press conference.

Campino spoke to people who shared history with him." Yet, this does not contradict his role as Guest Professor, because he also made it clear that he stood on stage as an artist and not as an intellectual.

Someone who is not afraid to speak out

Grande believes that the way Campino interacts with the public today stems from his youth in the Bonn Republic. "He began the first lecture with the story of how he was supposed to recite the poem *'Die Ballade von Ribbeck auf Ribbeck im Havelland'* at school and faltered midway through, which resulted in him being embarrassed and humiliated. And, after this and other experiences, he became a punk rocker. He became someone who was not afraid to speak out and say things that others had not dared to say before." This made him difficult for the public to handle for many years, but he did what he had learned to do at school: Speak without fear about politics and the current times. Campino is not only used to speaking his mind in public, he is also willing to take action and take back

"In both lectures, everyone in the room could adapt this 'us' as they all had the rebel vibe in their youth. There was something nostalgic about it. Campino spoke to people who shared history with him."

Dr Jasmin Grande — culture studies expert

In the second lecture, Campino was accompanied by journalist and author Philipp Oehmke. One topic of the entertaining dialogue was things that can be said and things that cannot (and can no longer) be said.

things that others have appropriated. "I initially asked myself why he devoted so much time to Trump," says Grande, "but, once he sang the song 'You can't always get what you want' by the Rolling Stones, it became clear: He doesn't let others take things away from him – instead, he re-appropriates them."

Jostling and networking

In his first lecture, Campino expressed regret that he did not assess artists of his adolescence correctly in his early years as a punk rocker. And recognised that he did wrong by Hannes Wader who "returned folk songs to the German people," as he said. Grande refers to this as "jostling and networking" and quotes Enno Stahl, who referred to this typical behaviour as "*Diskurspogo*" ("discourse pogo"). It shows his relationship with the public as one in which many things can be said and no-one needs to be afraid. This has become rare again today, as Campino and Philipp Oehmke observed. The Cultural Editor of the German current affairs magazine "*DER SPIEGEL*" entered into a dialogue with Campino at the second lecture. "While society fights over words and is even afraid of certain words, sexist songs are being celebrated in the nightclubs in holiday destinations," Campino commented in amazement.

This lack of fear vis-à-vis the public can even generate a sense of community, as became clear in the second lecture. The musician began by looking at social media reaction to his first lecture. The event attracted criticism in certain right-wing political circles and, by publicly sharing these posts, Campino created a community among and with the audience at the second lecture. "I interpret this as him wishing to show that he is not afraid of the public," says Grande. And she believes this can also be observed in recent albums: "The band has used its albums to address the burden it carries around, applying an ironic twist."

In the 80s and 90s, Campino supplied the slogans that expressed the *Zeitgeist*. "And, by attending the lecture, we all became part of the rebellion again. Even if the current rebellion is passing us by. While we need to accept that the world is changing, we were able to dream – at least for a short time – that we are the revolutionaries. And pretend that we don't bear responsibility yet."

"Standing up for Germany as a punk was a difficult process."

Campino — singer of the punk rock band "*Die Toten Hosen*"

Campino started out as a rebel in the 70s, taking a stand against the establishment. Now, he has arrived at the heart of civic society, not only as a Guest Professor, but also in his many other roles. Has he changed, has society changed? "He has retained his strategies, but the content has changed," says Grande. In the second lecture, Campino talked about the band's first tour to Argentina. The five band members were viewed as representatives of Germany there and often asked about the anti-immigrant protests taking place back at home at that time. "That was hard," remembers Campino. "Standing up for Germany as a punk was a difficult process." In doing so, he also faced up to the always-difficult discourse about homeland in Germany. "In the mid-2000s, it became apparent that this discourse would be appropriated by others if we did not keep a hold of it," says Grande. "And it became clear to many that this could not be allowed to happen. This is a particularly important topic again right now."

Making a contribution to this country

In this situation, the content of his texts changed and his negative attitude towards Germany slowly shifted to a responsible one. "He is starting to establish something at an artistic level that can make a contribution to this country. From the album *'Ballast der Republik'* onwards, the statement is crystal clear: I am assuming responsibility here," says Grande. She points out that this was also the album where he began to sing Kästner songs. "He is thus following the tradition."

Is rebellion in the Bonn Republic worthy of note even if we know that the threatened sanctions were not drastic? After all, it was not resistance in an unjust state like East Germany. "Absolutely," says Grande, as there was a threat of potential sanctions at various levels. In addition to the state level, there was also the familial level: "After all, there is the father complex to consider and the threat of being deprived of love," she comments. There was a strong image of who you should be and distancing yourself from that took a lot of energy. And, at some point, parents stopped making repressive gestures and even liked what their children liked. That made distancing yourself very difficult. "These are typical closure strategies for the Bonn Republic," Grande observes. "It's about the question of how to get on with my parents and their generation after I have settled the old scores." Campino demonstrated his way in the first lecture: He sang "*Nur zu Besuch*" ("Just Visiting") – the song he wrote shortly after the death of his mother – that clearly affected him deeply. "I perceived Campino as authentic at that moment because it fitted in with his perception of 'public': He was not afraid."

TAKING A STAND AGAINST STUPIDITY TOGETHER

AN INTERVIEW WITH CAMPINO

PHOTO PAUL SCHWADERER

PHOTOS MAREL KUSCH

Guitarist and friend, Kuddel accompanied Campino at both events

INTERVIEW BY **VICTORIA MEINSCHÄFER AND ACHIM ZOLKE**

MAGAZINE A huge number of people feel they know "Campino". Do you feel that they really know you?
Campino No, of course not. However, I understand that, as a figure in the public eye, people frequently project things onto me. And when people talk about me, they are talking less about Andreas Frege and more about the figure of Campino. Some have no opinion about this figure, some like him and others hate him. Whatever I do, it usually gets commented on one way or another. But it's not really me that is meant, so it is actually good to establish a bit of distance to things.

MAGAZINE Is it like an acting role?
Campino Not really, because I am not playing a role. Everything I stand for in public is 100% my attitude. Nevertheless: To a certain extent, the show starts as soon as I leave the house. I have to accept that as it's part of what I do. I can't just cherry-pick the good bits. It's the same for everyone in the public eye.

MAGAZINE What role do you play, what describes you as a person best?
Campino I think I'm better off not asking myself such questions and that I should rely on my intuition instead. Otherwise, I would quickly start trying to meet expectations. And I cannot always meet the expectations of others, that's clear. I am guided by my own way of thinking and not that of others. People who were absolutely on my wavelength in the 80s for example may now say 'I do not see myself in this man any more'. That can mean different things: Either the other person has changed or I have changed – or, ideally, we have both changed.

MAGAZINE Your lectures as the Heinrich Heine Guest Professor have received significantly more media coverage than we have ever had before in this format. Why do you think that is the case?
Campino I completely underestimated it. I did not expect this media interest. I thought that I would talk about something and a few students would sit there and maybe listen. In principle, it's exactly the opposite: I am the one being scrutinised. The public are watching to see whether I do a good job. I am being measured by what I say and that is why I have such great respect for the lectures.

MAGAZINE In the first lecture, there was a reference to a generational conflict in the Q&A session with the audience. And you said that you don't really see that.

Campino That's correct, I don't really see that. I don't think it's about young versus old, but rather about us all taking a stand against stupidity together. This statement triggered a lot of people and there was a bit of a storm in the social networks. For example, someone said that I shouldn't say that 25% of the Germans are stupid. Interestingly, some thought that my statement referred to AfD voters because the party had around 25% support in the polls at the time. This is a good example of how social networks work: A sentence is taken out of context and formulated into a report. The mob then jumps on it, regardless of what the topic actually was. The constant demands to take a stand on topics are currently a problem. We will be criticised by one side or another, regardless of what we say. And if we say nothing, we get criticised for that, too! Some people will do everything they can to provoke a conflict. The saying "silence is golden" no longer applies. It's more like: The first to say something wins. That's fatal.

> "The constant demands to take a stand on topics are currently a problem. We will be criticised by one side or another, regardless of what we say. And if we say nothing, we get criticised for that, too!"
>
> **Campino — singer of the punk rock band *"Die Toten Hosen"***

MAGAZINE Appearing on a lot of talk shows is one way of raising your profile. Why do you do that, yet avoid social media?

Campino That was something I did more in the past. Today, I rarely take part in such programmes. Before social media existed and television was more relevant, I did indeed attempt to get my concerns and thoughts across in these programmes for a while. However, I had to learn the lesson that you are just a pawn there. As soon as you appear on a talk show, there is a risk that you will be instrumentalised and that you have been included on the guest list for tactical reasons.

MAGAZINE So it's less about the topic and more about the medium of the talk show? Are there topics that you would never comment on?

Campino Of course. I would prefer to say nothing about 90% of topics. But there are also topics where I know that, if I don't say anything, no-one will. So, I go there and say what I need to say. It's not a pleasant experience. However, some topics are absolutely critical.

Around 20,000 people applied for tickets but only 1,200 visitors per event were able to see Campino live in the lecture theatre.

MAGAZINE What topics are you committed to?
Campino I think it's best if we get involved in topics that are important to us. I can't explain either why one topic provokes an emotional response in me, while another does not. We are at our best when we have a personal connection with the topic. That is of course also an injustice because you can't contribute to everything. But I really want to be sure that I don't lose my own orientation. Having inner doubts, being patient and weighing up your options are part of this. Consequently, I wonder why there is such disdain for uncertainty or hesitancy nowadays. That mechanism protects us and prevents us from carrying on regardless and talking nonsense. We should not let external sources of pressure get to us. Ultimately, you have to answer to yourself.

MAGAZINE The topic of your second lecture was "cacophony". Your observation: "Everyone has something to say." What interests you about this?
Campino The issue of whether digital media harm democracy more than they help it. That was a starting question. It needs to be understood that algorithms are at work here and they are trained to pick up things that will go viral, namely outrage and scandal. And these are exactly the terms that can be found in the toolboxes of extremist parties, irrespective of whether they are on the right or the left. Anyone who wants to stick to facts and not make extremist remarks gets filed away as boring and irrelevant. And then you can no longer reach people because the algorithm doesn't support that. That's a big problem. We are living in difficult times, but we must remain confident. If we lose our confidence, we lose everything. And we must continue to trust in the institutions of democracy, and in the media and journalism.

> "Consequently, I wonder why there is such disdain for uncertainty or hesitancy nowadays. That mechanism protects us and prevents us from carrying on regardless and talking nonsense. We should not let external sources of pressure get to us."
>
> Campino — singer of the punk rock band *"Die Toten Hosen"*

MAGAZINE You were a critic of the system, defined yourself as on the left and fought against the establishment. Now you are more part of established society. How did this change come about?
Campino The whole world has changed since we started as a band in the late 70s

and into the 80s. Back then, the Iron Curtain still existed, an unnatural – but very stable – balance of power. Our attitudes and opinions were of course completely different at that time. I have never consciously tried to live life as a punk or be particularly critical of the system. I made an effort to praise the things I found good and criticise the things I did not find good.
In the last 40 years, pretty much everything has fundamentally changed, our entire society and the balance of power in the world. I find it almost grotesque to be asked why I am no longer the person I used to be.

MAGAZINE Anja Steinbeck often gets asked: How did you manage to get Campino to come to the University? Her answer: Through persistence and asking for 10 years. The question then always follows: Why did he take so long to agree? The answer: He didn't have the confidence to do so in the past. This is followed by disbelief: He can perform in front of thousands of people and yet doesn't have the confidence to speak to 600 people in a lecture theatre? From the first inquiry to now – how did this internal decision-making process play out?
Campino It had nothing to do with confidence actually. I always knew that I would have to prepare myself thoroughly if I was going to do it. And that doesn't "just happen". I never definitively said "no", but it didn't fit into my schedule for a long time. When Joschka Fischer took over the Heinrich Heine Guest Professorship, some of my band colleagues went to see him and they were really enthusiastic. And I was of course in the lecture theatre myself when Klaus Maria Brandauer came to speak at HHU. I found the events very interesting and a great success. But what shocked me most was when the mail from the University began with the words: "We are now asking for the tenth time. And I would like to see it happen before I retire." That gave me such a guilty conscience that I pulled myself together. And it's good exercise for me as I have a bit of a problem with procrastination, meaning that it's good to have a fixed date to work towards. I was enrolled here at the University in Düsseldorf too, so I belong to the club as it were.

Achim Zolke and Victoria Meinschäfer visited Campino at his agency JKP to conduct the interview.

FOTO PAUL SCHWADERER

How AI influences competition and pricing

Calculations in a matter of seconds

BY CAROLIN GRAPE

Artificial intelligence is being employed in ever more areas of the economy. Whether in the rapidly growing online trade, the travel sector or even in the traditional retail sector such as at the petrol pump or in the supermarket – algorithms are increasingly taking over when it comes to making pricing decisions on markets and calculating what products should cost. They can complete calculations in a matter of seconds – but does this benefit consumers?

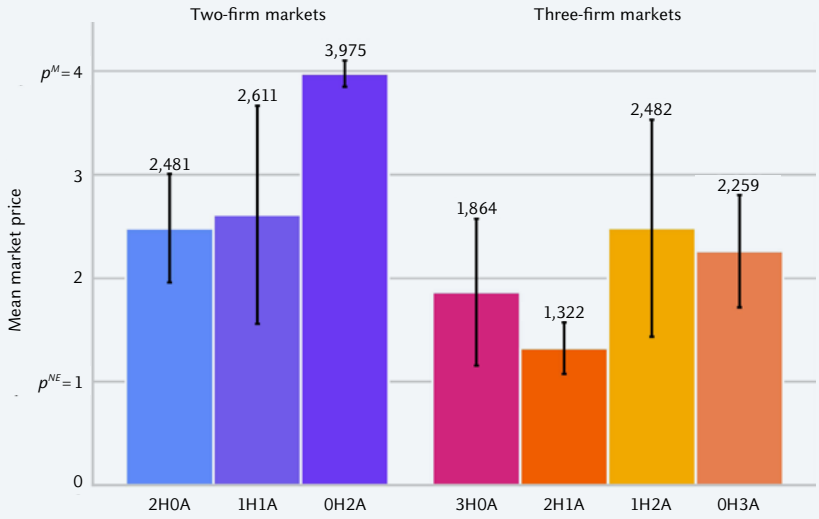
Only to a limited extent," says economist Dr Tobias Felix Werner. His research focuses on the artificial intelligence economy and he has recently successfully completed his doctorate, which was supervised by Dr Hans-Theo Normann, Professor for Game Theory and Experimental Economic Research at the Düsseldorf Institute for Competition Economics (DICE). In his doctoral thesis by publication "Essays on the Digital Economy", he examines the wide-ranging impact of digitalisation on markets and competition: "I am particularly interested in algorithmic collusion, i.e. coordination between automated systems aimed at restricting competition between companies."

Taking the petrol station as an example

The expert explains this, taking petrol stations as an example: "On this particularly opaque market, petrol station leaseholders used to have to research competitor prices themselves before deciding their own in a time-consuming process. Nowadays, apps do this for them: They show where the cheapest fuel can be found, updating the information on an ongoing basis. Algorithms play a key role here. In addition to rule-based algorithms, where the programmers maintain control over price strategy, new self-learning algorithms are increasingly being used. They are set an objective – to maximise profit, for example – but they are not told what pricing they should use to achieve this objective. Thanks to their ability to gather vast volumes of data, algorithms can identify new connections, which are completely beyond the grasp of human minds, making them able to select a better price strategy. And they have understood that consistently higher prices are good for the profits of all suppliers" because, if one petrol station offers fuel at a cheaper price, the others must quickly follow suit to avoid losing customers. The result: Everyone then earns less.

As the use of AI increases, so do the concerns – in particular from the point of view of competition economics: Self-learning algorithms on platforms could select an approach aimed at maximising profit that a person would have rejected. They could coordinate with each other, form a tacit cartel and thus circumvent price competition.

Dr Tobias Felix Werner has examined exactly this issue in his thesis. In a constructed environment in an experimental laboratory, he examined how these technologies influence pricing in various market environments and



This graphic shows the mean market prices, split into two groups: Two-firm markets (left) and three-firm markets (right). Within each group, the number of algorithms used increases from left to right. In each case, on the left-hand side, only people are involved and on the right-hand side, only algorithms. Mixed markets including people and algorithms can be found in the middle of each group. The Y-axis shows mean market prices and the error bars represent the standard deviation from these prices.

what consequences this has for competition. Comparison of this algorithmic decision-making with markets in which people decide and define prices formed a particular focus.

"I selected a two-step approach and began by conducting simulation studies: In a simulated environment, two self-learning algorithms competed against each other: I wanted to find out what strategies they learn and what prices they define as a result. In a second step, I re-created real market conditions in the laboratory with two firms and with three firms in which people competed against each other or against pricing algorithms. The algorithms learned to apply conventional reward and punishment strategies in order to make deviations from high prices across the board unprofitable by threatening price wars." A key point in the experiment: The algorithms had no opportunity to communicate with each other and had no prior knowledge of their environment.

Effects that distort competition

His key study results show: "Prices rise in line with the number of algorithms involved. The highest prices occur primarily in small markets with only two suppliers where they are determined exclusively by algorithms. Here – without any communication – the algorithms often reach tacit agreements to keep prices artificially high. These prices are higher than those defined by people. Similar anti-competitive effects can also be observed in three-firm markets, albeit to a lesser extent."

The research conducted by the economist provides proof: The increasing use of AI-based autonomous price algorithms is weakening competition to the disadvantage of consumers and creating new challenges for regulation in practice as autonomous AI tools are capable of concluding tacit price agreements on a systematic basis.

The latest research by Tobias Felix Werner can help regulatory authorities understand the risks of price algorithms better and take appropriate measures such as conducting AI tool audits in order to uncover and prevent digital cartels between price algorithms.

Summa cum laude: Tobias Felix Werner wrote the best thesis in the Faculty of Business Administration and Economics in 2023. For his innovative research, he was honoured with the thesis prize, presented by the *Kreissparkasse Düsseldorf* bank: Doctoral supervisor Hans-Theo Normann with sponsor Svend Reuse, Dean Stefan Süß and prize winner Tobias Felix Werner (from left).

PHOTO PAUL SCHWADERER

PROBASE – Important findings for prostate cancer prevention

The future of screening

BY SUSANNE DOPHEIDE

Early detection improves the chances of a cure. This applies for many types of cancer, including prostate cancer – the most frequent type of cancer in men with well over 65,000 new cases per year. But the why, when and who of early diagnosis have been a topic of debate for a long time: There was a need for evidence-based data reflecting both the risks and benefits of prostate cancer screening while factoring in men's different individual risk levels. Meaningful data are now available.

ILLUSTRATION ELI ALAIMO DI LORO

Professor Dr Peter Albers is head of the PROBASE study ("Risk-adapted prostate cancer early detection study based on a baseline PSA value in young men – a prospective multicenter randomized trial"). Its goals are to optimise prostate cancer screening by means of PSA value measurement and test the hypothesis that it is possible to take a risk-adapted approach to prostate cancer screening based on one PSA value measurement taken at the age of 45. It is currently the largest study of its kind worldwide. It is financed by *Deutsche Krebshilfe*, the German non-profit cancer research/support organisation, and coordinated by the German Cancer Research Center (DKFZ). The study is headed by Professor Peter Albers, department head at the DKFZ and Director of the Department of Urology at University Hospital Düsseldorf. The four centres involved in the study in Düsseldorf, Heidelberg, Hanover and Munich recruited a total of 46,642 men aged 45 between 2014 and 2019.

Risk of abnormalities can be assessed at an early stage

The prostate-specific antigen (PSA), a protein, which is only produced in the prostate gland but which can be measured via its presence in the bloodstream, makes it possible to assess the risk of malignant abnormalities even at very early stages. The higher the value, the more likely it is that a tumour is present. Very high values point to an advanced stage of the disease and the existence of metastases. However, a normal PSA value is no guarantee that a person does not have prostate cancer. And conversely, a higher PSA value does not automatically mean that they do. Urinary tract infections or prostate inflammation, benign tumours and pressure on the prostate can all affect this value.

In the past, prostate cancer screening was a controversial topic in particular because the results were not sufficiently reliable. This changed gradually as a result of MRT scans, which enable unnecessary biopsies to be avoided, and "active monitoring" in which men with early-stage cancer are closely monitored and only treated when their condition starts to advance.

If detecting cancer at an early stage makes sense, why are there arguments against screening? "On the one hand, PSA screening enables earlier detection of prostate cancer and improves the chances of treatment, which in turn reduces death rates. On the other hand, however, some prostate carcinomas have such a favourable prognosis that treatment is not always necessary. In addition, the PSA measurement can also return false positive results. For this reason, general PSA screening can result in stressful further examinations and treatment that would never have been undertaken if screening had not occurred." In order to minimise overdiagnosis and overtherapy, the PROBASE study is pursuing the approach of making screening dependent on the initial PSA value determined at the age of 45. This value stands for a man's individual risk of developing prostate cancer.

The study examines whether the initial PSA test should be conducted at the age of 45 or whether starting risk-adapted screening at the age of 50 is sufficient. The hypothesis: Men who start risk-adapted PSA screening at the age of 50 are no more likely to develop a metastatic prostate carcinoma by the age of 60 than men who already start comparable screening at the age of 45. A further aim is to examine whether delaying the start of screening can significantly reduce the rate of unnecessary diagnostic and therapeutic interventions in the future.

Peter Albers presented initial results at the European Association of Urology Congress in Paris in April 2024. "A five-year interval before a repeat test is safe for prostate cancer screening for men who have a low PSA value at the age of 45 and thus a very low risk of prostate cancer," states Albers. Data from more than 12,500 men aged between 45 and 50 were analysed in order to reach this conclusion. All these individuals were included in the ongoing PROBASE study, in which various prostate cancer screening protocols are being tested. PROBASE recruited men aged 45 and divided them into three groups on the basis of their first PSA test. Men with a PSA value below 1.5 nanograms per millilitre (ng/ml) are classed as low-risk and tested for a second time after five years. Men with a PSA value between 1.5 and 3 ng/ml are classed as medium-risk and re-tested after two years. Men with a PSA value above 3 ng/ml are classed as high-risk and sent for an MRT scan and a biopsy.

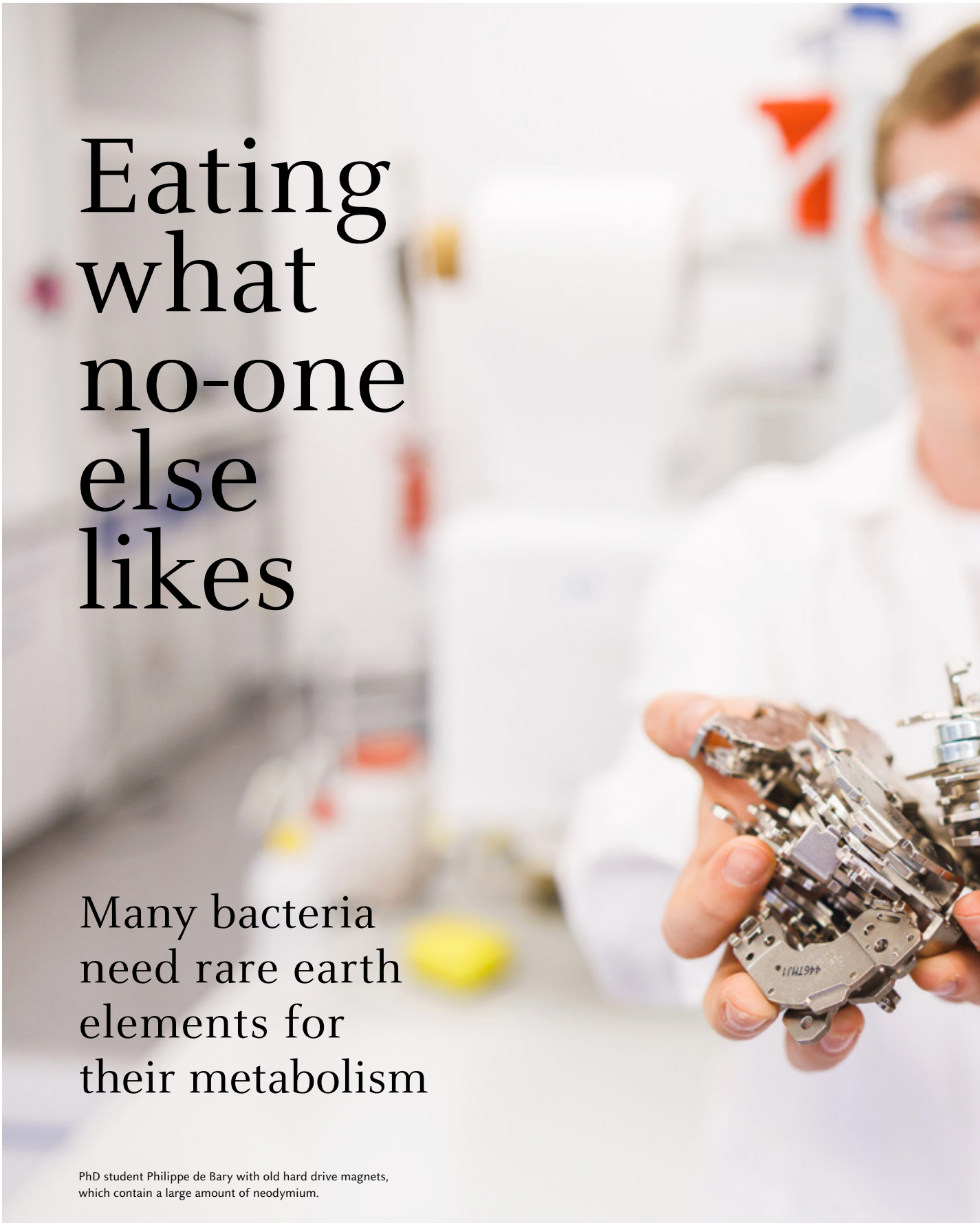
Extending the screening interval

Of the more than 20,000 men recruited for the study who were classed as low-risk, 12,517 have now had their second PSA test aged 50, as Professor Albers reported in Paris. The researchers found that only 1.2% of them (146 in total) had high PSA values (above 3 ng/ml) and were sent for an MRT and biopsy. Cancer was subsequently diagnosed in just 16 of these men – which corresponds to a mere 0.13% of the entire cohort. The new results indicate that the screening interval for low-risk individuals can be much longer than currently recommended in the screening guidelines with only minimal additional risk.

The new findings of the PROBASE study will result in changes to the current recommendations of the European Association of Urology. The principal investigator, Professor Peter Albers, explains why: "By raising the threshold for low risk from 1 ng/ml to 1.5 ng/ml, we were able to extend the interval between tests for 20% more men in our cohort, with only a very small number of them developing cancer in that time. With almost 14 million men aged between 45 and 50 in Europe, such a change would apply to a significant number of individuals. We have not yet concluded our study and we may yet establish that an even longer screening interval of seven, eight or even ten years is possible without any additional risk."

Eating what no-one else likes

Many bacteria need rare earth elements for their metabolism

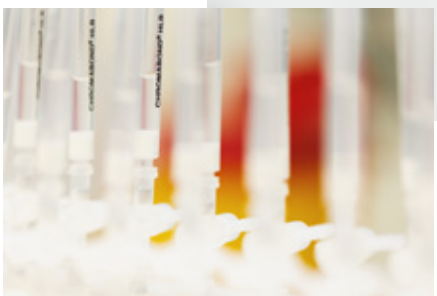


PhD student Philippe de Bary with old hard drive magnets, which contain a large amount of neodymium.

PHOTOS CHRISTOPH KAWAN

BY ARNE CLAUSSEN

There are some very strange creatures in the natural world. Methylotrophic bacteria need so-called C1 compounds such as methanol or methane for their metabolism. Professor Dr Lena Daumann from the Chair of Bioinorganic Chemistry at Heinrich Heine University Düsseldorf is studying a class of these bacteria, which need certain chemical elements from the group of so-called lanthanides for their metabolism and ingest them for this purpose. Lanthanides are however also important in the world of technology as they are needed for a variety of high-tech applications. The bioinorganic chemist and her team are therefore aiming to use such bacteria to recycle and separate lanthanides.



Sample processing

Some bacteria live in what at first glance seem to be hostile environments – at extreme water pressures and temperatures in which other organisms would have long since been boiled to death or in incredibly acidic environments such as volcanic mudpots. One such bacterium, called *Methylacidiphilum fumariolicum* SolV, can be found in Professor Daumann's laboratory: It was isolated from the Solfatara crater near Naples by Dutch researchers. It uses methane gas for its energy metabolism, making it a methylotroph, i.e. a bacterium that converts C1 compounds.

Researchers also discovered such bacteria in the Gulf of Mexico after the catastrophic fire on the Deepwater Horizon oil-drilling rig in 2010. "A great deal of methane was released, resulting in a bloom of methylotrophic bacteria. At the same time, there was a significant reduction in the concentration of lanthanides in the seawater: The bacteria had ingested them for their growth," explains Professor Daumann.

She continues: "In order to survive, the bacteria we are studying need certain elements from the class of rare earth elements – colloquially known as 'rare earths' – to be precise, a subgroup of these elements, so-called lanthanides."

Lanthanides for various technical applications

In addition to lanthanum, which gives the subgroup its name, there are 14 further lanthanides including cerium, neodymium and gadolinium. These elements are needed for a range of technical applications such as in fluorescent materials or magnets, as catalysts or for alloying metals. "They can also be found in banknotes. For example, euro notes contain the lanthanide europium among others," comments Professor Daumann.

The lanthanide-utilising bacteria being studied in Düsseldorf are often pink; a bacterial culture was grown on a nutrient medium to produce the image.

Preparing the time-of-flight mass spectrometer to take measurements.

In the bacteria, the elements serve as cofactors in important enzymes, the methanol dehydrogenases. A cofactor is a non-protein component, which an enzyme needs in order to catalyse a reaction – in this case, the oxidation of methanol to formaldehyde. Lanthanides are thus an essential part of the C1 metabolism of these special bacteria.

They can be found in many minerals and are therefore not actually rare. However, their extraction is neither eco-friendly nor sustainable as large quantities of radioactive waste are generated in the process. This is because the minerals containing them frequently also include uranium and thorium, which are then released during the extraction and purification of the lanthanides.

It is also difficult to separate the individual elements – purity is namely essential for technical applications – as they only occur together in the minerals and have a very similar chemical composition. Separation is also time-consuming and energy-intensive.

The largest deposits that are comparatively easy to extract are located in China, while there are also others in Australia. The dominance of China in particular results in economic dependencies and, consequently, other ways of obtaining the elements are being sought. The bacteria in Professor Daumann's laboratory can help here: "We are growing them in media, which contain lanthanides or to which we have added a source of lanthanides." Such sources include for example old magnets from hard drives, which contain a large amount of neodymium.

Bacteria from a volcanic mudpot

"Or we can cultivate the bacterial strain from the Italian volcanic mudpot directly with wastewater from an old uranium mine – which also contains several rare earth elements – in the laboratory. This wastewater already contains all the elements the bacterium needs to live." The bacteria can thus be used to clean the wastewater and extract valuable materials at the same time.

Another potential application would be to collect the element gadolinium. It is injected into patients as a contrast medium for MRI images in hospitals and then passed out of the body in their urine. Sewage treatment plants are hardly capable of retaining the gadolinium

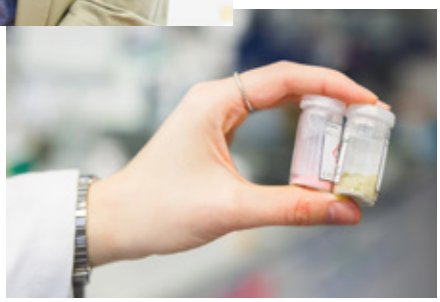
PhD student Sophie Gutenthaler-Tietze reviews samples to be examined using a mass spectrometer.

Inspecting a bacterial culture.

Bacterial culture in its nutrient solution in a shaker.

The lanthanide europium can also be found in old banknotes. The bacteria in Professor Daumann's laboratory are given shredded banknotes (far left; adjacent: ground to powder and in the form of ashes) to eat. They extract the coveted elements in the process.

Professor Lena Daumann heads the Chair of Bio-inorganic Chemistry at HHU.



The lanthanidechloride of holmium (left) and neodymium (right).

and so it can end up in the ground water. If the bacteria could extract the element from the wastewater, ideally while still in the hospital, this would not only protect the environment, but also enable the gadolinium to be reused. There is however one problem, as Professor Daumann explains: "By nature, the bacteria prefer lighter elements such as lanthanum and cerium, which have a greater ionic radius, so they need to be modified in order to work with heavier elements such as gadolinium."

Separating radioactive actinides

Lanthanides are chemically similar to another group of elements: actinides. All of these elements are radioactive. Accordingly, the research team is investigating whether the bacteria can also ingest actinides and utilise them for their metabolic processes. Daumann: "Our bacteria do actually grow with americium and curium, as we have been able to demonstrate in the laboratory." This means that they have the potential to bind the hazardous elements and remove them from the environment in a targeted manner, for example after radioactive incidents or in contaminated areas. "The fact that our bacteria not only tolerate radioactive elements, but also actively utilise them for their growth by using them in their enzymes is a very important finding with a view to the separation of lanthanides and actinides."

> "Our bacteria do actually grow with americium and curium, as we have been able to demonstrate in the laboratory."
>
> **Professor Lena Daumann — chemist**

Heinrich Heine University Düsseldorf

Haus der Universität

The *Haus der Universität* is a place of dialogue and exchange between science and society – in the heart of Düsseldorf. After extensive renovations, the van Meeteren Foundation kindly allowed Heinrich Heine University to use the building at Schadowplatz 14 as an event centre and, since 2013, as a venue for scientific conferences and for presenting university research and teaching as well as academic culture. The *Haus der Universität* takes on a central function for Heinrich Heine University at the interface between science and the public. It is part of the higher-level public engagement strategy being pursued by the university, which actively furthers the exchange between the city of Düsseldorf, its citizens as well as society as a whole.

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