



University  
of Basel

# UNINOVA

University of Basel Research Magazine – N°129 / May 2017



Dossier

## Image and freedom.

**In conversation**  
Stress affecting  
everyman.

**Debate**  
Who owns  
our data?

**Album**  
From nose  
to knee.

**Research**  
Diagnosing  
psychoses early.

# HEK

Haus der  
elektronischen  
Künste Basel

**How Much Of This Is Fiction**  
23.03.-21.05.2017

**unREAL. Die algorithmische Gegenwart**  
08.06.-20.08.2017

**Agnes Meyer-Brandis: Wolkenkerne,  
Mondgänse und Wanderbäume**  
07.09.-12.11.2017

**Regionale 18**  
25.11.-08.01.2018

Das HeK wird unterstützt von:

**Team**  
Contributors to  
this issue



**1 Ralph Ubl** is Director of eikones, the National Center of Competence in Research (NCCR) Iconic Criticism, which concludes with a final conference in September 2017. A native of Austria, the 48-year-old focuses his research on fields such as art of 19th and 20th centuries, contemporary art, and art and image theory. [Pages 16–17](#)

**2 Christian Knörr** produced the photo series for the dossier in this issue. Since 2000, he has been working as a freelance photographer specializing in portrait and fashion photography and has exhibited in Switzerland as well as abroad. In addition, the 45-year-old lectures in photography at the FHNW Academy of Art and Design in Basel. [Pages 14–33](#)

**3 Ivan Martin** is Professor of Tissue Engineering at the Department of Biomedicine, University of Basel and University Hospital Basel. He is currently academic lead on a study to test the use of cartilage cells from the nose to repair cartilage damage in the knee. The clinical component is based at the department of orthopedics and traumatology at University Hospital Basel. [Pages 38–47](#)

# The power of images.

The destroyed Buddhas of Bamiyan, the photographs from Abu Ghraib, the cartoons in Charlie Hebdo, the anti-Erdogan banner in Switzerland – as all these examples show, the freedom of images never ceases to be a point of contention. Again and again, political and social disputes are conducted through images – as are many violent conflicts. What we have seen can leave a deep impression on our consciousness, both personal and collective. And because images emanate a powerful force, they are themselves at risk. On the other hand, images can also embody a piece of freedom, depicting things that do not exist. Some visual messages play with the idea that reality could be quite different. In short, images operate on various levels, with many taking form only in our minds.

An artist who works primarily with photography recently said that she struggles with video as a medium: it makes her uneasy that by wielding the camera, she alone determines how long the viewer gets to watch the moving images – essentially limiting her audience’s freedom in this respect. In an era in which we are bombarded with images every day, this is a refreshingly considered opinion. On an academic level, a thematic focus of the University of Basel revolves around the power and meaning of images. Accordingly, this issue introduces a number of projects on the topic of “image and freedom”. We hope you find it an enjoyable – and insightful – read.

Christoph Dieffenbacher,  
UNI NOVA editorial team



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**Cover photo and photo series**

The photographs taken by Christian Knörr, produced in collaboration with the Basel-Stadt state archive, show various image carriers from the pre-digital era: large-format negatives, 4x5-inch diapositives, daguerreotypes, slides, glass slides for stereoscopic playback, etc. Most of these objects are translucent and designed to be used for duplication or projection. They have been arranged in a way that addresses both the photographic carrier and the motif. The idea is that the motif emerges as a function of the lighting – or not at all: “The image within the image assumes its own freedom in a way,” says Knörr.

**Dossier**

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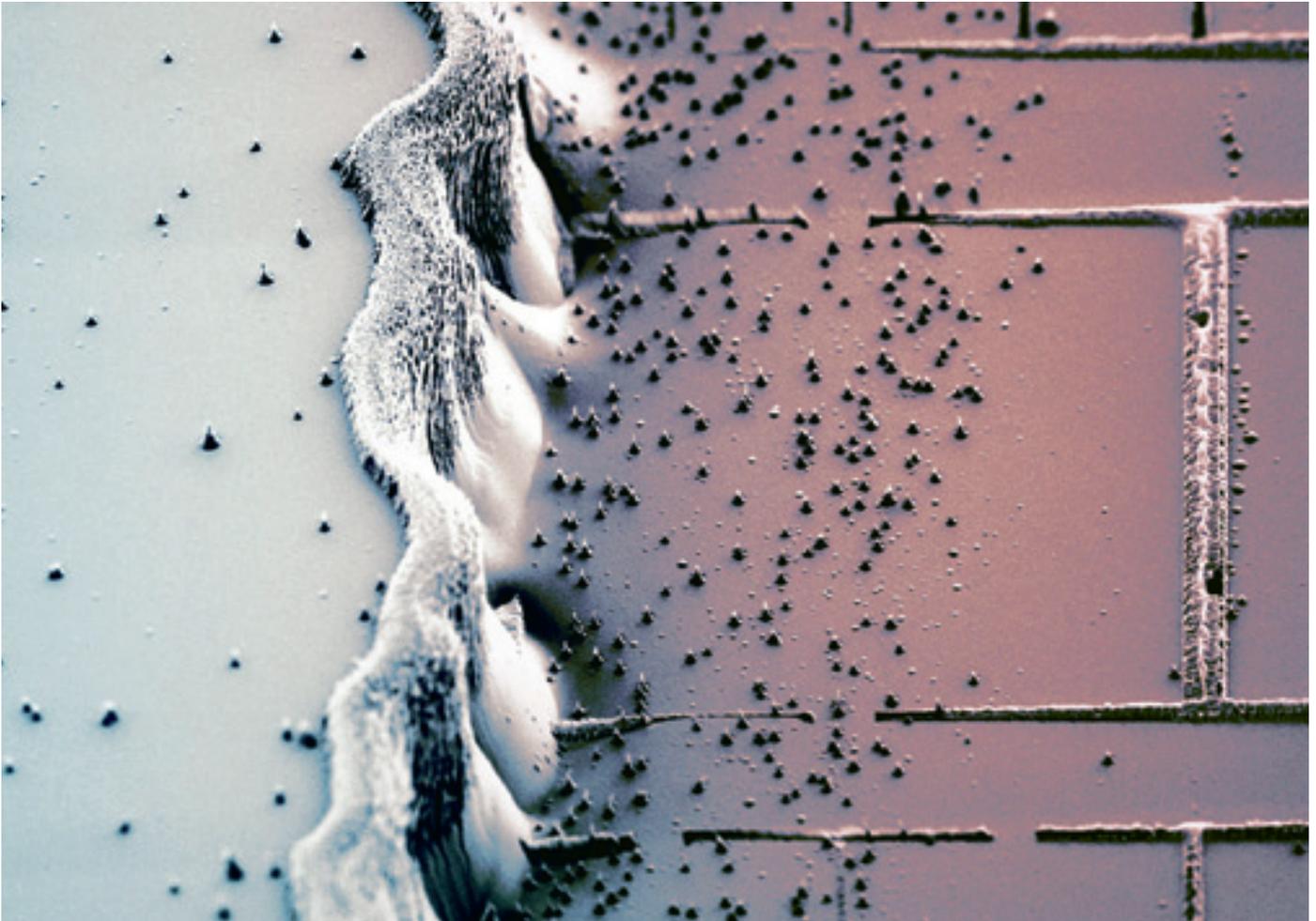
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Nano-magnetometer

# Structured diamond surfaces.



What looks like a winter landscape is actually the surface of a diamond after being treated with oxygen plasma. The picture was taken with a scanning electron microscope and subsequently colored. While the light area on the left-hand side was covered, the plasma ate deeper into the artificial diamond on the right-hand side.

The plasma treatment is used to etch structures into the diamond – in this case, square diamond plates with edges measuring 10 to 40 micrometers in length. The plates can be broken out at the pre-prepared

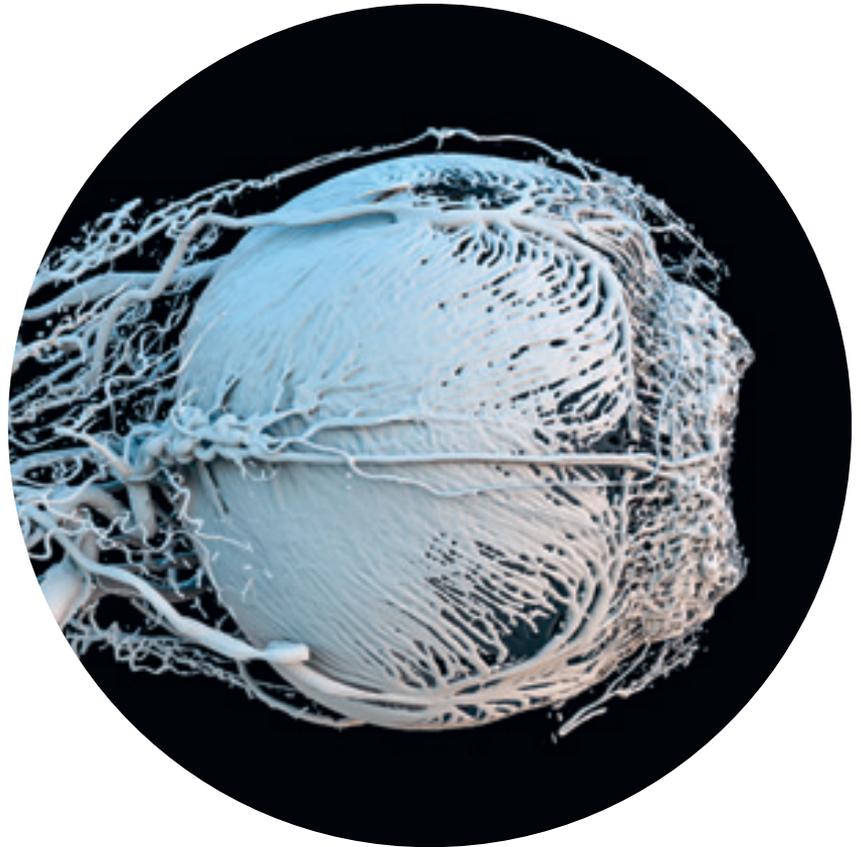
break lines and used as specimens. At the etching edge, some particles form that locally obstruct the etching plasma, which results in the needle-like points.

Researchers in the Department of Physics use these types of diamond structures as sensors in nanoscience and life science applications. In doing so, they take advantage of nitrogen-vacancy centers in the diamond's crystal lattice that make it possible to record tiny magnetic fields. ■

Zurich to Petrograd

## The revolution train.

100 years ago, Lenin and a handful of other revolutionaries boarded a special train in Zurich which carried them through Germany up to Scandinavia to Russia. The trip was to culminate in an historic transformation, with Lenin's party rising to power as a result of the October Revolution of 1917. The journey and its effects on the course of the 20th century were the focus of a theme day jointly organized by the departments of Eastern European History of the universities of Basel, Bern and Zurich in early April. Besides readings, lectures and discussions, the program included a trip on the historic steam train. Drawing on historical sources, actors recreated scenes from the journey, giving a voice to the passengers – including those whom the revolution passed by. ■



3D data reveal the anatomy of the eye:  
[youtu.be/BODXF8I5-Yw](https://youtu.be/BODXF8I5-Yw)

A 3D-printed model

## Insight into the unseen eye.

Delicate blood vessels surround the eye of a healthy miniature pig and deliver energy and nutrients to the cells. The indentation on the right is the pupil, through which light enters the eye. The blood vessels that surround the iris can be as little as 20 to 30 micrometers thick. The large vessels supply the retina, which is the light-sensitive region at the back of the eye.

To make the blood vessels visible, researchers led by ophthalmologist Dr. Peter Maloca of the OCTlab at University Hospital Basel began by injecting a highly viscous contrast medium into the finely branched vascular structures. They then used computed tomography to generate a 3D image and converted this into a template for 3D printing. It took 39 hours to print the model, which is about ten centimeters wide. The picture earned the researchers a Wellcome Image Award from the UK's Wellcome Trust, which recognizes the best scientific images in the field of healthcare and biomedical science. ■



**“People feel stressed if  
they cannot control a situation.”**

**Pasquale Calabrese**

# “Stress is a public health problem.”

Neuroscientist Pasquale Calabrese discusses a widespread health problem, its physical and psychological aspects, and how people assess threats differently.

Interview: Christoph Dieffenbacher    Photo: Christian Flierl

**UNI NOVA:** Professor Calabrese, do you recall a time when you felt particularly stressed?

**PASQUALE CALABRESE:** Yes, it was a few years ago, when I moved to Basel after accepting a new job here. My circumstances changed completely at that point. I wasn't yet able to gauge my situation and found myself in an uncertain position. This is quite normal: People feel stressed if they cannot control a situation; if they aren't sure if their own resources are enough to cope with the demands they are facing. As a neuroscientist, I would put this a bit differently: Stress occurs when an organism receives stimuli that it perceives and interprets as a threat – one that the organism cannot evade. The less controllable the situation, the more stressful it is perceived to be.

**UNI NOVA:** What exactly happens to the body when it experiences stress?

**CALABRESE:** We know from brain research that there are still structures in our brain whose alarm systems were key to our ancestors' survival – for example if they were suddenly faced with a potential predator, such as a saber-toothed tiger. These networks have survived for millions of years because they have proven

their worth over the course of evolution and helped to ensure our survival. In these biological systems, the crucial thing was to act extremely quickly – according to the motto “fight or flight”. From a physiological perspective, the threat is first registered by the thalamus, in the diencephalon region of the brain, which forwards the stimulus to other switching points in the brain. The stimulus is then processed firstly via an – in evolutionary terms – “old” route, which is faster, as well as via a “newer” route, which operates more slowly. Whereas the first route provides approximate but rapid processing, the evolutionarily younger route processes the stimulus more slowly but with greater accuracy and in greater detail. The first route activates the amygdala, which relays the signals to the hypothalamus, causing it to release specific control hormones. These arrive at the pituitary gland, where so-called glandotropic hormones are formed, leading to the release of stress hormones such as cortisol and adrenaline from the adrenal glands. The blood pressure rises and the bronchi become wider to allow more oxygen to reach the muscles. The immune system and sensi-

tivity to pain are temporarily suppressed. This activation of the stress axis, as we call it, takes place within fractions of a second.

**UNI NOVA:** And what about the slower stimulus processing route?

**CALABRESE:** Well, as evolution progressed, the cerebral cortex developed in humans and took on a specific function, allowing us to process complex information. One result of this is that humans are able not only to perceive threats that appear directly in front of them but also to detect more distant – and merely potential – sources of danger. In other words, we have the capacity to imagine a specific situation and to begin responding to it already ...

**UNI NOVA:** ... and perhaps also to experience stress as a result of dangers that we have simply imagined?

**CALABRESE:** Exactly. Our more advanced brain allows us to perceive potential dangers through association and anticipation. As a result, even simply imagining a dangerous situation that we expect to occur, or have already experienced, can trigger the same physical responses as the real threat: a pounding heartbeat, breaking out into a sweat, increased muscle

## “Stress-related loss of working hours costs our economy huge sums of money.”

Pasquale Calabrese

tension. The slower route for stimulus processing triggers essentially the same stress axis as the faster route, but whether and how strongly we become stressed in response to a situation depends primarily on our assessment of the situation.

**UNI NOVA:** Are some people therefore more susceptible to stress?

**CALABRESE:** In principle, one can say that there are various options for coping with stress. Broadly speaking, there are the “fighters”, who face the situation head on and call upon their resources. Then there are those who run away, avoiding the threatening situation, and lastly those who play dead and act as if nothing is happening. A person’s assessment of a situation depends partly on how they evaluate it cognitively. In humans, strategies for coping with stress are largely learned. However, we also know from brain research that stress can be transferred in the womb: If the mother is put under significant pressure, this can lead to programming errors in the child’s brain – with potential consequences such as attention disorders, ADHD, or learning difficulties later in life.

**UNI NOVA:** Can stress be measured?

**CALABRESE:** Yes. Stress has not only a psychological but also a physiological/endocrinological and behavioral dimension. The first of these can be measured using questionnaires and psychometric tests, for example; the second using measurements of hormone concentrations, brain waves, or cardiac activity, for example. The third dimension can be deduced indirectly through observations, for example if someone suddenly speaks in a high or shaky voice. There are therefore a series of direct and indirect methods for recording an individual’s state of stress.

**UNI NOVA:** Today, even children actively use the terms “stress” and “burnout” as part of their vocabulary. Has stress truly become a public health problem, as you said in a recent talk?

**CALABRESE:** Numerous health issues, such as cardiovascular diseases, diabetes, and obesity can be traced back to stress. Stress-related loss of working hours costs our economy huge sums of money. For many people, stress also entails psychological and social pressures. We use the term “public health problem” to describe health phenomena that have become so widespread as to lead to huge economic consequences, as is clearly the case here.

**UNI NOVA:** Why are stress and the diseases associated with it becoming more prevalent, at least in Western societies?

**CALABRESE:** In my opinion, this is related to the ever-rising tide of data that we are required to process in our daily lives. Today, people are confronted with information of all kinds far more often than before. Our environment has become more complex. In almost all occupations and jobs nowadays, there is a constant stream of new things to learn. At the same time, people face growing pressure on performance and work intensification. But increased quantity of information does not necessarily mean increased quality –

there is always a need to review and weigh up what is important or useful and what is not. This can lead to stress in many people. However, it is important to add that short-term and temporary stress also has positive effects: This “good” stress – eustress as opposed to distress – produces a temporary boost in physical and mental performance. It can be viewed as a challenge.

**UNI NOVA:** But the big problem is probably chronic stress, which stops many people from relaxing ...

**CALABRESE:** Correct. Stress – a word that actually comes from mechanics and originally referred to wear and tear on a material – can have fatal consequences. These not only relate to the rising incidence of the diseases of modern civilization we mentioned earlier. It is also important to consider the effects on the brain: Persistent pressure and demands on the individuals can lead to a state of chronic stress, in which the hippocampus – a brain structure with a vital role in learning and memory processes and one that can curb the production of stress hormones in a feedback loop – is flooded with the hormone cortisol. The nerve endings are damaged, and the connections between the nerve cells recede. In the medium term, the consequences of

this include altered brain function: The powers of concentration are impaired, and the affected individuals have problems recalling information. Stress also has an adverse effect in conjunction with other diseases: For example, it exacerbates the condition of patients with multiple sclerosis or dementia, as well as those with affective disorders.

**UNI NOVA:** Stress-related diseases and health complaints are hard to treat – what options are available?

**CALABRESE:** The best way to treat stress is through a two-pronged approach. On the one hand, it is important to curb the physical responses within the stress axis. For example, this can be done using medicines that have a moderating effect, at the same time as avoiding or reducing the consumption of alcohol and stimulants such as caffeine. On the other hand, these steps should also be supplemented with coaching methods – or, in the event of pathological effects, with certain forms of psychotherapy. In this way, the affected individuals can learn to reassess or reevaluate certain situations. Other preventive measures include consciously deciding to take things easier, or learning to say no more and to use your resources more sensibly and economically.

**UNI NOVA:** What do you think of the alternative medicines on offer on the healthcare market?

**CALABRESE:** Instead of alternative medicine, I prefer to talk of complementary medicine. As a complement to traditional medicine, methods of this kind can also assist with treatment for stress. As we know, good results have been achieved by incorporating aspects such as exercise, diet, coaching, resilience training, meditation, and mindfulness. At the same

time, it is always important to raise awareness of these techniques among affected individuals. Sufferers of stress often come to the experts far too late, i.e. only when their stress has already become a chronic condition.

**UNI NOVA:** What are the key outstanding research questions at the moment?

**CALABRESE:** For example, it remains unclear what role stress plays in the development of affective disorders, such as cases of depression. Moreover, although the highly regulated stress axis is known to have an adverse effect on the emergence and development of certain neuroimmunological diseases, such as multiple sclerosis. This is another area where there is a need to examine the cause-effect relationship in greater detail. After all, it must be assumed that, in line with the biopsychosocial model, all of these examples involve an interplay between hereditary factors – that is, specific individual genetic conditions – and environmental influences. These combine with social circumstances in the individual case to produce an organic “loss of control”, which we experience as a stress-associated disorder. There is still a great deal of research to be done in this area.

**UNI NOVA:** Going back to your earlier experience with stress when you arrived in Basel: How did you cope with the stress at the time?

**CALABRESE:** Firstly, I was helped by the social environment and by the fact that I felt comfortable in my new job in Basel. Later, my family came to join me, and my wife also found a job here. Social and communicative elements are very important when it comes to stress – after all, humans are social beings, and their brains are also social brains. ■

**Pasquale Calabrese** is Professor of Neurosciences at the University of Basel's Faculty of Psychology, where he leads the Neuropsychology and Behavioral Neurology group within the Transfaculty Research Platform Molecular and Cognitive Neurosciences (MCN). At the same time, he also works in the clinical setting and conducts research into, among other things, the neuropsychiatric aspects of multiple sclerosis, Parkinson's disease, dementia, depression, stress, and perception.

# Graduate Center, urbanism and politics degree programs.

## Innovative Platform

### Graduate Center opened.

GRACE, the University of Basel's new Graduate Center, opened in mid-March to provide a central contact and service point for the university's several hundred postdocs and more than 2,600 doctoral candidates. The aim of the new center is to offer young research talents the best possible conditions for success in their PhD or postdoc phase. GRACE fosters interdisciplinary exchange and prepares researchers for the scientific and professional challenges that lie ahead, both within and beyond the university. Its efforts to this end include training sessions and events providing extensive networking opportunities, e.g. in collaboration with the idea platform TEDxBasel. ■

[unibas.ch/grace](http://unibas.ch/grace)



## New degree programs

### Urbanism and politics.

From this fall semester, the University of Basel will offer Political Science programs at both bachelor's and master's level, while the master's program in Critical Urbanisms will begin for the first time. The new degree subject Political Science will focus on international issues and contrasts between and within political systems. Students will also have the opportunity to pursue their own specific interest in a particular region of the world. In the master's program in Critical Urbanisms, students will examine the social, political, economic and cultural processes inherent to the urban phenomenon. The interdisciplinary course has a focus on Africa, and the second semester is spent in the South African metropolis Cape Town. ■

[unibas.ch/studienangebot](http://unibas.ch/studienangebot)

### Funding triumph

## Seven new SNSF professorships.

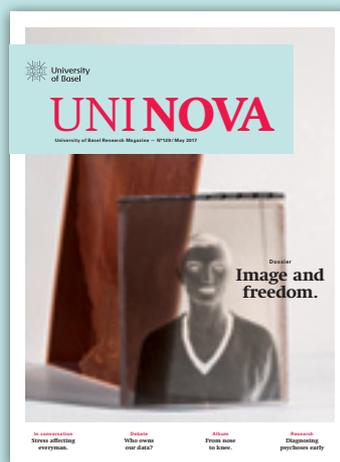
The University of Basel will host seven of the 42 new professorships awarded by the Swiss National Science Foundation (SNSF). Four male and three female researchers chose the University of Basel as their host institution. As a result, the university will receive over ten million Swiss francs in external funding. The new SNSF professorships at the University of Basel cover a broad range of subjects, with highly-qualified young researchers taking up professorships in the following departments: Biomedical Engineering, Biomedicine, Biozentrum, Mathematics and Computer Science, Languages and Literatures, Environmental Sciences, and the Swiss Tropical and Public Health Institute (Swiss TPH). ■

### Reshuffle in the President's Board

## New vice president for teaching.

From the start of the 2017 fall semester, 56-year-old Slavicist Professor Thomas Grob will be the University of Basel's new Vice President for Teaching. Grob has been a professor of Slavic and General Literature at the University since 2009, and dean of the Faculty of Humanities and Social Sciences since summer 2016. In his new position, his responsibilities will include program development, student services, educational technologies, academic teaching, the language center and postgraduate continuing education. Grob succeeds the previous vice president, Professor Maarten J.F.M. Hoenen, who will leave the President's Board at the end of the 2017 spring semester. At the same time, Professor Hedwig J. Kaiser will step down as Vice President of Education. In the course of a restructuring process, the vice presidents' offices will once again be divided into the two traditional areas Teaching and Research, with Professor Edwin Constable remaining Vice President of Research. ■

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# Image and freedom.

Photos: Christian Knörr

**The digital revolution has given birth to a new type of society whose members are confronted daily with images. These images may symbolize political or social freedom. Increasingly, images per se are also able to create freedom in the broadest sense. In this dossier, we explore the ways in which the terms “image” and “freedom” impact on each other.**

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**Image theory background and considerations on current developments – an overview.**

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**Page 22**

**After gaining independence, former colonial nations wanted to create a new image through a different architectural style.**

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**Page 26**

**We always regard images in the context of our existing knowledge. How important are models here?**

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**Page 30**

**Photography was initially considered to be a direct reflection of nature and later became an art form in itself.**

# Perceiving the world.

There are images of freedom that we create for ourselves, as well as the freedom that we gain through images. This overview of the topic draws on image theory and thoughts on current affairs.

Text: Ralph Ubl



**Ralph Ubl**

is Professor of Modern Art History and Director of eikones, the National Center of Competence in Research (NCCR) Iconic Criticism. The concluding NCCR conference on September 14–15, 2017, is dedicated to the topic of “Images and Freedom.”

**T**o question the relationship between the image and freedom is to face a bewildering range of different viewpoints. However you choose to define the terms freedom and image opens up a further set of problems. Freedom may be understood as an uprising against political oppression, the exercising of civil liberties, or a kind of moral autonomy – but it may also refer to the unfettered ventures of economic powers or the autonomous development of the arts. No less multifarious is the use of the term image: For one person, it may mean objects that are collected and exhibited in an art gallery; for another it may be data that is stored as TIFF or JPEG files, or “interior” images of thoughts or fantasies for someone else.

A careful definition of terms is needed to relate these two complex and much-discussed concepts to one another in a productive way. It is worth noting that their relationship has rarely been purely theoretical. Humanities scholarship never begins with an ideal standpoint around which a perspective could circulate unimpeded. Rather, topics tend to come to light, and then take on a new shape or character under the circumstances in which they emerge – and in this process their meaning may change drastically as a result of unexpected developments. When the Council of Europe decided to dedicate the 21st Coun-

cil of Europe Exhibition to the topic “Emblems of Liberty” in 1986, none of the curators could anticipate just how relevant this show would prove to be when it opened in 1991 at the Bern Historical Museum following the fall of the Iron Curtain.

## Images and violence

Current affairs continue to subject theoretical discourses about images and freedom to new, rapidly changing challenges. These developments are distinctly less encouraging than those of 1989. For over a decade now, images have played a critical role in cultural, political and violent conflicts in which the future of freedom is at stake.

One of the promises of progress that modernity offered was an end to violent clashes in which images were abused and censored. The iconoclasm of the Reformation, and later of the French Revolution, led to the founding of public collections and state museums. They served to protect those images that an enlightened public ought to reject for religious or political reasons. Taking an interest in the idols and symbols of power of the past at a distance, permitted one to enjoy one’s own religious and political freedom. The museum became a place in which a society – that considered itself because of its freedoms to be

progressive and reflective – collected and studied the pictorial records of distant histories and cultures.

This liberal bourgeois “containment” of images was not only fundamentally questioned by the pictorial propaganda of twentieth-century revolutions, totalitarian states, wars and genocides – it also provoked backlashes that were as vehement as they were diverse. The avant-garde scorned the idea of historical and aesthetic distance as a renunciation of the future. Postcolonial critique illuminated how autonomous art is tied up with the violent dispossession of non-Western cultures. And despite their differences, the political events of recent history that involve images – from the destruction of the Bamyan Buddha statues and the photographs that emerged from Abu Ghraib, to the attack on Charlie Hebdo and the horrific videos from the so-called Islamic State – have made one thing clear: that the relationship between images and freedom was in no way resolved by the modern pacification and distanciation of images.

#### **Distance from reality**

Do images produce their own kind of violence that was only barely brought under control during modernity? Are we, as enlightened Europeans, forced to accept that images are not simply representations but rather themselves agents that interfere with our social and political realities? This common assumption must be countered by the fact that the overwhelming majority of all images lie idle and ignored in the memory of our smartphones and in other archives. Only a small minority of images are afforded particular authority under specific circumstances. On the contrary, most images that are created and saved today are testimony to a new kind of freedom that we take for granted to such an extent that we hardly perceive it.

Whether images represent an expression of human freedom is a critical question in image theory. It is evident that an image opens up a distance to reality that enables its observer to reflect on – and potentially change – his or her own position. Witnessing a shocking event first-hand paralyzes us. A journalistic photograph of the same event is unlikely to leave us cold, but offers a foreign perspective on the event, namely that of the photographer, and we are free to accept or reject this perspective. If this image particularly emphasizes the viewpoint of the photographer, e.g. through the framing, it may lead us to conclude that every event can be captured in entirely different ways. It allows us to realize that we are only able to perceive the world in fragments – and thus differently.

#### **This way or that**

Such a freedom of images becomes especially conspicuous when an image displays a new or unusual viewpoint. However, it is not just a feature of especially sophisticated artistic or documentary works, but is more deeply entrenched in contemporary life. Around 600 years after the discovery of perspective, the majority of images that we encounter on a day-to-day basis from all over the world are automatically generated according to its rules. Distinguishing and modifying viewpoints, distances and frames does not demand any special expertise, but is rather part and parcel of the digital modification of photographs and films. As consumers of digital technologies, images allow us to view the world this way or that at the click of a mouse.

This freedom can serve different purposes. Whether it promotes moral, political, or artistic freedom can only be decided on a case-by-case basis. Yet, given that technology now allows all of us to switch between different viewpoints, to modify these for ourselves and for others, and to manipulate them and criticise them, undoubtedly has consequences for our understanding of freedom. ■

**“Whether images represent an expression of human freedom is a critical question in image theory.”**

**Ralph Ubl**



# Art and material culture.

Paul Klee and the New Typography:  
At first glance, you might not link the visual poet with the aesthetics of modern printed materials. Now, two research projects are revealing their commonalities: the emerging standardization of text and image formats, and the organization of work.

Text: Isabel Zürcher

**S**ometimes new questions emerge from the unremarkable periphery. And so it is with Paul Klee: The artist's approach to the format of his pictures is part of Johanna Függer-Vagts' research into "Bildgrenzform" (image boundary form). This term, which was coined by the artist, merges the German words for image, boundaries and formal structure, and provides important guidance when examining his work in detail. His visions, often in a small format, were not conceived as an outlook or a window into another world. Instead, his compositions owe their originality to a specific focus on transitions. Numerous, seemingly marginal aesthetic decisions lie between room and table, table and paper, paper and image, or image and text. Klee took these seriously, and attempted to systematize artistic principles within his work.

## Art at the threshold of an era

With their handwritten dates, numbers, subtitles and signature by the margin, works on paper are a particular reflection of an artist who leaves no detail to chance (and certainly not the margins). Artistic display and the material medium both play a key role, even before and during the First World War – a time in which the composition and use of paper was

completely redefined. Box files, new filing systems and the paper size formats used to this day were just some of the means employed to cope with the "paper flood".

For Függer-Vagts, these artistic findings raise questions about the historic context of classic modernity: for example, did the transition to the wartime economy – lack of materials and time, but also a lack of peace – have aesthetic consequences? The question is topical, both in art and in everyday life. Are we not ourselves witnesses to a fundamental change in the reception of images and their relationship with language and text? Economic pressure and our mobility have spawned transportable offices. We can work while travelling, redefining movement spaces and shaking up the distinction between work and leisure time. We have grown accustomed to reading and writing largely without paper. Did Klee's art mark the edge of a new era even 100 years ago?

## Growing paper consumption

Here, the research undertaken by Függer-Vagts touches on that of science historian Fabian Grütter, who looks at the history of paper and design standards. Klee's workplace, the Bauhaus, was not insignificant here in the interwar period: "The way the

**Johanna Függer-Vagts** is writing her dissertation on Paul Klee's theories and practices of form.

**“Knowledge of the entire material culture of the office expands the narrow focus and enables Paul Klee, the protagonist, to be viewed in the macrosocial context of his time.”**

Johanna Függer-Vagts



**Fabian Grütter** researches the material culture of the New Typography.

everyday setting of our workplaces and offices looks is largely due to standards organizations like DIN and their industrial partners. Famously, these also included the Bauhaus.”

The outgoing 19th century increased the production and consumption of paper many times over. The standardization of printed matter to ensure efficient “brain work” would impact furnishings and workplaces. While the “kontor”, derived from the French “comptoir”, was still a standing table on which work was organized in piles, after the turn of the century offices strove for an infrastructure in which papers were close to hand on shelves and in drawers.

Bauhaus functionalism also affected aesthetic norms and the organization of writing and images in print media and advertising. These innovations, these radical changes, have often been linked with the “Neues Sehen” (New Vision) within the Bauhaus typography. The significance of modern icons such as collages, graphic objects, and writing for companies and products has been established in numerous programmatic texts by designers. However, Grütter turns away from these sources and focuses

above all on the materials: How was work organized in offices 100 years ago? Which facilities boosted efficiency and what were the consequences for writing practices? Faced with such cultural history facts, modern typography presents itself not only as a revolutionary aesthetic innovation, but as the result – even the endpoint – of a development that began in the 19th century.

**Format and aesthetic innovation**

Both research projects are anchored in the same era, both look at formatting, and both trace visual innovations not only in the sense of artistic authorship, but against the backdrop of cultural history changes. The interaction between the two projects was therefore evident, allowing the individual, often very close studies to be placed in a broader context. “Obviously,” says Grütter of Függer-Vagts’ study of art, “questions of paper formatting have not just influenced the development of modern typography.” In turn, his colleague sees a benefit in relating material culture – the silent artifacts of paper and writing tools – to the reading of Klee’s images: “Knowledge of the entire material culture of the office expands the narrow focus and enables Paul Klee, the protagonist, to be viewed in the macrosocial context of his time.”

Did the drawing, writing, painting artist have a positive attitude toward the standardization of paper formats? Or did he choose to draw in opposition to the norm? He was aware of the changes that modern administrative spaces had undergone since the turn of the century. Klee had taught at the Bauhaus, where social developments – such as industrialized goods production – invited design and artistic experiments. He was also one of the people whose daily interactions with modern office furnishings led to a personal artistic strategy. And who proved that no standard can dispel the magic and freedom of drawing. ■



# The shape of freedom.

After independence, former colonies saw architecture as a way of remodeling their appearance. Often they chose the modernist style, which was, however, adapted in all sorts of ways. This is illustrated by a project focusing on India.

Text: Simon Koenig

**M**odernism was understood as a universal language,” explains Pathmini Ukwattage, a student at the eikones graduate school, who is writing a dissertation on modernist architecture on the Indian subcontinent after 1945. “Modernism meant abstraction,” she says, “and, consequently, freedom and disengagement from all forms of tradition.”

For this reason, states that had gained their independence after the Second World War were highly receptive to the modernist view of architecture. It was an approach that appeared to complement the efforts of these newly independent countries to reconstitute and represent their own identities. “Modernism seemed to be free of nationality, religion, ethnicity and other cultural paradigms,” Ukwattage notes. Yet at the same time, it conveyed an ideal value – something truly democratic that everyone could understand. Concepts such as democracy and freedom were thus closely associated with the image of modernism.

## New style versus old constraints

As Ukwattage points out, both postcolonial African and Asian countries and non-aligned states such as the former Yugoslavia sought to make this kind of statement. In doing so, their aim was also to define themselves as a credible alternative to the capitalist West and communist East – with a new style, to liberate themselves aesthetically from traditional constraints. Freedom and independence were portrayed and lived out through architecture and art.

The central premise of Ukwattage’s research is that modernism was appropriated in highly distinctive ways. “Naturally, something happened during the appropriation of modernist principles. That is the really interesting thing,” she explains. “In India, for example, we see the development of a distinctive architectural language, which modified the climatic, social and culturally specific parameters of the original, western-derived form.”

Modernist architecture, therefore, only starts out as a global style. In reality,

the form assumed by modernist building in Sri Lanka and India differs slightly from that found in other parts of the world, as the architecture needed to take account of the tropical climate. Thus, for example, we find structures without windows or with clear passageways, which enable air to flow more freely. It goes without saying that these construction decisions influence the form and aesthetics of buildings.

According to Ukwattage, so-called fluid forms of this kind are perfectly compatible with modernist design principles. At the same time, however, traditional Indian architectural forms were adopted and assimilated to modernist architecture. This was because methods of regulating temperature have always been integral to architecture in India and Sri Lanka. Such examples show, first, that modernism does not exist in a pure form, and second, that it is an adaptable style with room for flexibility.

## Le Corbusier in India

The city of Chandigarh is significant in this regard, as it marks the start of mod-

ernism's reception in India. Ukwattage sees this planned city as a perfect example of the transcultural potential of the western concept of modernism in India. At independence, this former British colony was split into the separate states of India and Pakistan. The province of Punjab, which was affected by partition, lost its seat of government as a result. At the request of the Prime Minister, Jawaharlal Nehru, the Swiss-French architect Le Corbusier was commissioned to plan and manage the project to construct the capital for the Indian federal states of Punjab and Haryana.

Chandigarh is laid out as a grid structured around five different kinds of streets, ranging from highways down to cycle paths. "The city was patterned on the human body," Ukwattage explains. "There is a 'head', where three huge government buildings – for the executive, the legislature and the judiciary – are located." Streets that Le Corbusier termed lifelines lead to the "heart", which is the site of important buildings such as theaters and museums, as well as local gov-

ernment buildings. These are surrounded by city districts, each with its own infrastructure for everyday life.

"All things considered, you can say that the city works," Ukwattage stresses. Of course, there are some clear deficiencies – for example, because population growth far exceeded expectations and forecasts. "The infrastructure is too small, and suburban structures and slums have sprung up around the city." Still, Le Corbusier's sensitivity to and interest in the life, culture and climate of this Indian region helped make city life here a success. Chandigarh is not comparable to some of Le Corbusier's other urban projects, which were often designed with little regard to context.

#### Modernism with freedom

Ukwattage sees the city's success as due, in part, to Le Corbusier's profound engagement with India. "In Chandigarh, he wanted to build a city that met the specific needs of the population." That is why he included elements of traditional architecture and engaged intensively with In-

dian history and culture. For Le Corbusier and his architecture practice, which worked on the building project as a team, modernism did not mean imposing a style devoid of history and tradition.

In Chandigarh, modernism showed itself to be an architectural style and method suited to facilitating a break with the past. Here, India could be ultra-modern without harking back in visual terms to the former colonial power. The project also showed that there was sufficient scope for freedom and variation within modernism, as a stylistic vehicle, to enable it to respond in different ways to the geographical, social and climatic conditions that it encountered on the ground. Modernism can, therefore, be said to stand for a country's freedom not just to celebrate and represent its newly won independence, but to live it out in appropriate ways. ■



Le Corbusier, Palais de l'Assemblée (Parliament building), Chandigarh, 1955.



Russian artist Pyotr Pavlensky openly declares that his work is intended to be political. In his startling performances, he uses his body in extreme ways.

# Visible body, invisible power.

Text: Gerald Wildgruber

**A**ppplied to the world of political art, Paul Klee's famous dictum that "Art does not reproduce the visible but makes visible" finds its epitome in the work of Pyotr Pavlensky. The inner workings of a country's government are not something that is readily perceived. They are, in the terms of historian Ernst Kantorowicz, *arcana imperii*, or state secrets. Looked at from this point of view, the state as a whole acts as a kind of secret service, having superseded the church in the role of keeper of secrets. That which is hidden from the public is crucial to the power of the state. Pavlensky's political art deals with these *arcana* of power, zeroing in on what might be viewed as the iconostases of the state.

His performances use color, light, sound and words only indirectly; their true substance is the very representatives of state power that political art in public spaces provokes into action: the police, medical and psychiatric institutions and the judiciary. These are all manifestations of what Michel Foucault called *biopower*, a power that supervises all aspects of people's lives. Images produced by them, for example surveillance camera footage, are incorporated into the artistic process. The state's authorities are thus transformed into genuinely artistic executive organs; they become, as Pavlensky puts it, "means of execution and help create an image."

The purpose of Pavlensky's political art is to issue a challenge. This calls for acumen and prudence rather than sacrifice: "The artist is never a hero, because a 'hero' is someone who is offered up by society in sacrifice to the voracity of power," says Pavlensky. Unlike a martyr, an artist who has been neutralized is of no use to anyone. In this context, virtuosity, a familiar concept in art theory, can be redefined as the ability to challenge power in a calculated way, or the art of confronting an overwhelming adversary and avoiding annihilation. There is always considerable danger involved, which in



**Gerald  
Wildgruber**

works at the *eikones* National Center of Competence in Research (NCCR) *Iconic Criticism*. At his invitation, the artist couple Pyotr Pavlensky and Oksana Shalygina participated in a public discussion in Basel in October 2016.

Pavlensky's case means the risk of being imprisoned or forcibly committed to a mental hospital. Being a virtuoso artist, however, he knows exactly where and how to intrude into the machinery of state authorities so as to maneuver them into the precarious equilibrium of a deadlock, thus creating a momentary *tableau vivant* of power.

Pavlensky's performances have become known for their high degree of self-harm. In purely functional terms, they are a reliable way of summoning state power from behind the scenes. Inflicting violence on oneself challenges *biopower's* capacity to control life. However, in this conflict, the human body is a representative of finiteness and moderation. In popular culture, the body is typically thought of as a means of transgression, a foil for devotion and asceticism. In Pavlensky's art, by contrast, the human body with all its limitations confronts a system of power which, according to him, is itself characterized by the continual perpetuation of excess and irrationality. Ironically, the human body becomes an anchor point of sanity. It forms an obstacle to power and so makes it visible. In keeping with Dostoyevsky's illuminating coinage of "administrative ecstasy," Pavlensky has experienced the obsessive nature of state power. His objective is therefore to render its "bureaucratic lunacy" irrelevant.

In December 2016, after a series of criminal trials which resulted in fines and prison sentences, Pyotr Pavlensky and Oksana Shalygina were charged with sexual assault. This prompted the couple to leave Russia with their two daughters and to seek political asylum in France. Their application is pending. ■

# The model-like nature of images.

When we look at an image, we are influenced by what we already know. Art theorist Markus Klammer investigates how images work, and the role that models play in this process.

Text: Karen N. Gerig



**Markus Klammer** is Schaulager Professor for Art Theory at the University of Basel and deputy director of the eikones National Center of Competence in Research (NCCR) Iconic Criticism. He studied philosophy, art history and comparative literature in Vienna.

**L**ong before humans learned to write, they created images. Hunting scenes painted on cave walls survive to this day, although we know little about how or why they came into being. Even so, they allow a number of conclusions to be drawn: the fact that people used to go hunting, which species of animals existed at the time, which ones people hunted, and the weapons they used.

But were the paintings intended as a how-to guide? Or were they a storytelling device for children? We know virtually nothing about their context. However, when reading an image, our frame of reference is crucial. Images are invariably perceived through the lens of specific, historically and culturally conditioned prior knowledge. Context plays a part in determining what an image represents, and the liberties we can take when interpreting it.

## Dreams and the unconscious

Accordingly, context is a key aspect of Markus Klammer's research. For a number of years, the deputy director of eikones and Schaulager Professor of Art Theory at the University of Basel has been investigating how images work by focusing on their model-like nature. Back in 2010, he wrote his doctoral thesis on the function of images in Freudian psycho-

analysis. Freud regarded dreams as images – hallucinatory fragments of perception assembled by unconscious desires.

What is more, he employed images as models to explain the inner workings of the unconscious itself, such as the Mystic Writing Pad, a toy consisting of a wax block covered by a transparent sheet. When drawn on, the sheet is pressed lightly into the wax, making the lines visible. Lifting the sheet causes the traces to disappear, even though the impressions remain in the wax block. In Freud's analogy, the wax represents the unconscious, in which past impressions have been engraved, but are no longer visible at the surface.

This topic is what led Klammer to his current research. He believes models are indispensable in shining a light on complex issues. "Models explain the world to us: They help us grasp complex situations by reducing them to their essential elements. Models always serve specific goals and purposes," he explains, listing examples from everyday life: mathematical diagrams, physical models of the atom, but also social stereotypes and political symbols.

In art history, models are found in the form of images that belong to a canon because they are considered to be representative of a particular style, for





instance. Over the course of history, the various canons are constantly renegotiated: “Over and over, we rearrange series, groups and constellations of artworks according to which ones we regard as models.”

### Sensory excess

Images have a special place among models, as they do more than just illustrate complicated issues. “Images are loaded with sensory excess,” says Klammer. “As models, they have the potential to reveal more than intended.” Whereas in a technical diagram, for instance, the color used is largely irrelevant, in a painting every detail matters, and is open to a particular interpretation.

And how should this excess be dealt with? “It offers us a certain amount of freedom,” says Klammer. “By allowing different interpretations, it gives us the opportunity to discover aspects which had not previously been seen, or were not deliberately intended.”

The philosopher Roland Barthes proposed a “third meaning” of images, suggesting that in addition to an image’s intended message and culturally codified symbolic content, there is a third, specifically visual level of communication that is transverse to and indeed often in conflict with the others. By way of example, Klammer cites a photograph of the current US president pointing into a crowd with his finger: “First of all, we see Donald Trump the person. Then we see the forceful poise of a president. Finally, we can interpret the pointed finger as an authoritarian gesture that gives away more than is intended.”

Here too, prior knowledge plays a crucial role. Both the image’s function as a model and the range of possible interpretations are dependent on context. “I am interested in the circumstances which limit an image’s depth of meaning,” says Klammer, “and, conversely, in how it can be expanded.” To this end, he researches the structures whereby models are formed. “That sounds somewhat abstract at first,” he says. “But basic research is important – images science needs a methodological foundation.”

### Models as perspectives

It is to this methodological framework that Klammer hopes to contribute. He plans to demonstrate how “good models” show that they merely provide per-

spectives, and to offer a tool for critique through his research: “There should always be the possibility of specific contradiction.” Klammer intends his findings to be applied in various disciplines of visual culture, from art theory to the natural sciences.

Further research into images as models will be conducted at eikones in postdoctoral projects in several fields thanks to the involvement of the NOMIS Foundation under the auspices of an international fellowship program. As a result, the possibility to pursue specific projects on the subject of models at the University of Basel will be widely present, and the anthology published by Klammer in collaboration with Andreas Cremonini on the topic is likely to become a core text in the field ■

**“I am interested in the circumstances that limit an image’s depth of meaning. And, conversely, in how it can be expanded.”**

**Markus Klammer**

# Photography: artistic creation or reflection of nature?

Several Basel research projects are using photography as a lens through which to study the mass production of images and their impact. For many, the 19th-century medium still does not count as an art form.

Text: Christoph Dieffenbacher

**W**e are confronted with images every day – moving and still, in public spaces and in private. We see them in the media, take millions of photos with our smartphones worldwide every day, and save them, show them, forward them. We will also soon be able to move our own bodies through the imagery of virtual reality worlds.

Art historian Eva Ehninger notes that images are often accorded an emancipatory quality, especially within artistic practice: “They can break taboos and make us think in a way that, for instance, helps us perceive society differently and thus frees us from norms and traditional values.” Ehninger – now a professor at Humboldt-Universität zu Berlin since March 2017 and previously Laurenz Assistant Professor of Contemporary Art at the University of Basel – says, however, that the history of photography justifies a critical discussion of its alleged emancipatory power.

Photographs have been credited with having a special relationship to reality. They were considered (and often still are) as objective, unfiltered mirror images of their environment. “The alleged ‘naturalness’ of the photographic image makes it especially attractive for political or ideological appropriation. Photographs can seem emancipatory but they can also be used as tools for normalization or control,” says Ehninger.

## Made by a machine, not an artist

The question of whether or not photos are actually art became a point of contention among experts as soon as imaging technology was invented. Photography is said to have been born in 1839, the year that the first daguerreotype was presented in Paris. In the early days, most people saw photography as a scientific discovery. For them, the new technology was very truthful – the images were, after all, thought to produce themselves and replicate nature. Doctoral student Paul Mellenthin describes this notion as “self-evidence”: “The image is no longer created by the artist’s hand, but by a machine.” The photograph as a mirror image of the world, created without the intervention of an artist was considered a further step forward in an era full of technological innovations.

For obvious reasons, the first photographers in France and the UK had to use motionless subjects: architecture, static objects, archaeological views, still life images. Ehninger explains that photography’s scientific roots can be seen in early images taken using microscopes, and in stellar photography. Citizens also wanted to use photographs to record their belongings; politicians wanted to use them to document wars. Portrait photography quickly became popular. A new type of

career developed, large business segments opened up, and a mass market began to emerge. The first “snapshot” cameras became commercially available around the turn of the century and were affordable for the middle classes. As well as explaining how to take photos, the instructions also told users which subjects were best-suited to being photographed.

## Royal photographs for the people

“With photography developing at such a fast pace, theory formation lagged a long way behind practice,” says Ehninger, who herself investigated the impact of images by studying the mass dissemination of photographic portraits of Britain’s Queen Victoria (1819–1901). “These traditional depictions of a ruler also exploited photography’s pretensions to truth in order to produce a contemporary image of the monarchy,” says Ehninger. The queen was thus pictured at different ages, in different clothes, and sometimes even as an ordinary citizen. “The small-format portraits could be found in every corner of the empire. People collected them in albums and used them in collages.” Oil paintings had never achieved such a huge circulation.

When photographic portraits entered the scene, people also began thinking about what photography could do that painting could not. Ehninger says that the



Portrait photographs of Queen Victoria were widely distributed (from left): on a postcard from 1861; with husband Prince Albert of Saxe-Coburg and Gotha; on a stamp; on a postcard from 1887. © National Portrait Gallery, London.

new technology was clearly considered subordinate: “It was said that portrait photography could lay no claim to being art. Capturing a personality in an image was considered something only an artist could do.” Doctoral student Olga Osadtschy, who also researches the history of photography, adds that “it was a constant search, a process that was heavily conditioned by technological developments and sometimes also by chance.”

**Power and abuse**

Nevertheless, many artists reacted sensitively to the new medium. Portrait painters worried that it would make them destitute. In painting – impressionism, for instance – artists used photographic motifs such as cropping and seriality. In turn, many photographers saw themselves as artists and attempted to follow or even surpass their painterly role models. “Photography tried to legitimize itself by occupying a space close to art,” says Mellenthin. This led to the emergence of pictorialism around 1900. The movement was about making photography more like painting again, about mimicking the aesthetic of a painted picture by using, for instance, distancing effects such as overexposure and blurring.

Osadtschy says that while the mass development of functional photography

in Europe and the US after 1900 can be seen as a liberating and democratizing process, it also had a flip side. If you had a camera, you could exert power. This led to thousands of indigenous people being abused as objects of ethnographic and anthropological studies.

**A late arrival in museums**

Adept photographers knew early on how easily images can be manipulated, but the notion that photographs are highly truthful persists to this day. They are, and have always been, vehicles for ideologies and propaganda of all kinds. “Photographic images, however, are just as capable of supporting something as they are of opposing it,” says Mellenthin. Manipulation and the context in which they are used can drastically change the meaning of photographs. It took a very long time before anyone began discussing the fact that photos could also be used to deceive. People in various fields exploited photography’s ability to produce “true” images.

So when did photography become an art form? Not every photograph is intended to be art. Although photographic prints were publicly exhibited as far back as the 19th century, the new imaging technology was nowhere near entering art institutions. The first museum exhibition featuring photos opened in the Mu-

seum of Modern Art in New York in 1937, and it was only after the Second World War that the new medium established itself as an art form in its own right. Summing up, the three researchers say that pinpointing the aim and purpose for which photographs are taken, shown, and consumed, and establishing the extent to which they achieve their aims are tasks for art history and visual studies. This will also allow these disciplines to critically analyze the imagery that surrounds us today. ■

# People and animals.

Text: Karen N. Gerig



**Friederike Zenker** researches the power and meaning that photographic and moving images have within the animal-ethics discourse surrounding the singularity of animals.

**Friederike Zenker is investigating how images influence our relationships with animals, how they change our thinking and actions with regard to animal ethics. She also takes a personal interest in the role images play in the fight for animal rights.**

Since September 2016, Friederike Zenker has been doing research into unique animals for the “Singuläre Tiere in den Blick nehmen” project at Switzerland’s eikones National Center of Competence in Research. Based on current approaches in animal philosophy, she takes an analytical look at photos and videos to understand their significance. The emphasis is on the role of these images in animal ethics: What function might they have? Is the animal-ethics debate gaining impetus from emotions stirred by images of intensive animal farming, for instance? What contributions are visual culture and film theory making?

It is not surprising that someone who thinks these issues through in such detail should be personally committed to respect for animals and abstain from eating meat. Zenker has avoided any kind of animal products for more than a decade and has wondered about the deeper reasons behind her vegan lifestyle for some time. She first took an interest in animal ethics while studying philosophy at Freiburg im Breisgau and Glasgow. “I wanted to understand better a cultural and social change that I am part of,” she says.

By raising questions about the humane treatment of animals, animal ethics aims to encourage people to see animals as individuals. The debate about these issues has elements in common with the history of other emancipatory movements. For instance, Aristotle regarded women as incapable of rational thought and moral virtue and put them on a par with animals – a view that prevailed even into the 19th century. It was the women’s movement that finally prompted a change in attitudes.

Animals, however, are not able to stand up for their own rights. While an activist agenda is not Zenker’s motivation, there is a political dimension to

her research: “I want to help sharpen people’s perception and awareness, especially in light of the ongoing debate about the criteria that should guide our private and public treatment of animals.” In a first step, existing patterns of perception need to be analyzed in terms of how we view animals and what informs our views.

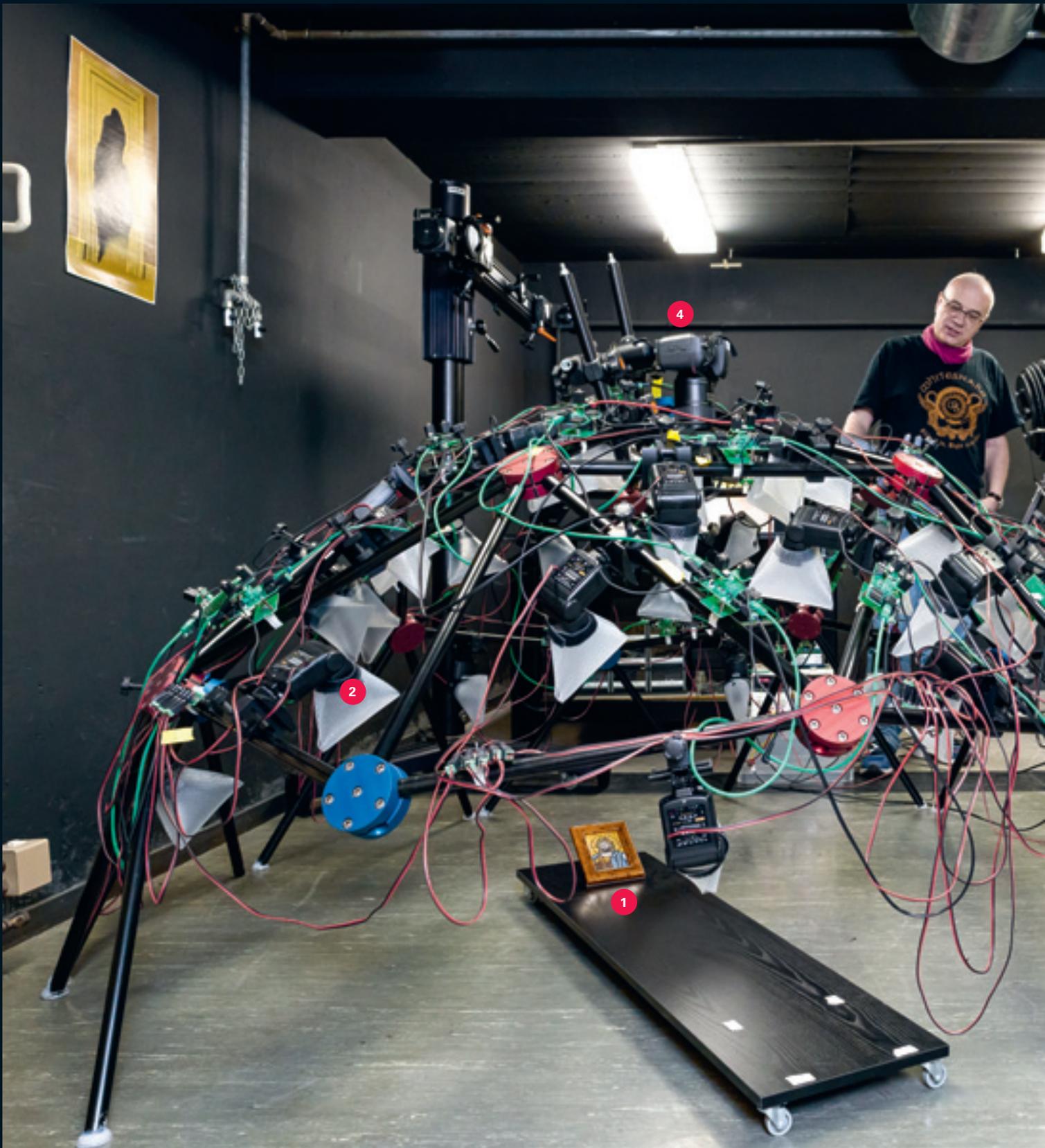
How we conceive of animals is partly a result of our encounters with real images. “That’s why I’m interested in animal depictions in the form of photos and videos,” says Zenker. Not every photo or video lends itself to analysis, however, and she is currently concentrating on documentary and staged images. “So that rules out Bambi and Nemo,” she jokes, before adding, “Of course, the presence of animal images on social media fascinates me, too. Even though they’re not directly relevant to my work, it’s certainly intriguing how those images shape our perceptions.”

So is there room after all for research on the cute cat GIFs that fill our Facebook feeds? “We don’t always immediately realize that this portrayal of animals isn’t fair to them. People categorize animals in ways that can be problematic,” says Zenker. She explains that we see some animals as companions while objectifying or ignoring others, often without rational justification and without thinking about how we impact them. “Images can perpetuate such perceptions, but they also have the potential to make us question them.”

She goes on to add: “I’m aware how vast this field of research is. Behind each door I open there are others waiting to be opened. I may have to close a few instead.” The reason is not only that there are innumerable species of animal, there are also masses of photos and videos that are all worth analyzing. Zenker explains that she is at an early stage of the project and is dealing with theoretical aspects, for instance defining what exactly it means to see an animal as an individual rather than a mere object or symbol. ■



# My Workspace





## Shining a light on the materiality of art.

Photographs can only reproduce the materiality and visual impact of a work of art to a limited extent. This is particularly true of how light is reflected off surfaces. Researchers at the Digital Humanities Lab are working on new ways to digitally capture and portray the visual properties of artworks.

Photo: Basile Bornand

**Peter Fornaro** is deputy director of the DHLab and the leader of the project. He is an expert in the fields of digitalization, color science, and long-term digital archiving.

**Lukas Rosenthaler** is Professor of Media Science and Digital Humanities, and director of the DHLab. He develops database systems and solutions for digital archiving.

- 1 In an interdisciplinary SNSF project in collaboration with the colleagues from Art History, lighting effects on mosaics are measured and simulated by computer. The individual tesserae of a mosaic exhibit a range of different surfaces, colors and angles. Any change in the observer's standpoint or the direction of the incident light alters their visual perception of the work of art.
- 2 The researchers use a special dome to record how the complex materiality of an object interacts with light. The purpose-built device comprises 45 flash units arranged at specific angles.
- 3 A software application triggers the flash units sequentially, illuminating the item from different directions.
- 4 A digital SLR camera attached to the flash units via a special interface captures a series of individual images of the same field of view under changing light conditions.
- 5 These images form the basis for a mathematical modeling process using 3D models, allowing the light effects to be simulated. As a result, the way in which the mosaic reflects light can be realistically and interactively viewed in a web browser.

# Who owns our data?

We disclose data about ourselves on the internet all the time, without realizing it. A computer scientist and a lawyer show that research into safeguarding privacy can go hand in hand with asserting a right to privacy.

**W**e kill people based on meta-data”, said the former CIA director Michael Hayden. In doing so, he provided a graphic illustration of how explosive so-called marginal data, also known as metadata, can be. These are data relating to, for example, the addresses of the sender and recipient of an e-mail, the place and time where and when it was sent, or its length. Across the world, internet providers are obliged to collect and store such metadata for several months. Even if the content of an e-mail is perfectly encrypted, it is accompanied by metadata that can themselves be highly informative.

From a technological standpoint, it is extremely difficult to conceal meta-data, as sending an e-mail inevitably leaves behind traces in many places. Even an encrypted file system transports information. Unlike with encryption, there is, as yet, no universally applicable method of establishing complete privacy within the digital space. What is more, it is not even clear that this is desirable. Citing terrorism or organized crime, law enforcement authorities insist that they should be able to hack into smartphones. Can and should science seek out methods of establishing complete privacy, in the knowledge that these may be abused, making it more difficult to tackle crime? Absolutely!

Computer science is growing better all the time at extracting information in all spheres of life, from consumer behavior to genome analysis, leaving people exposed in the digital space. As science is partly responsible for the erosion of privacy in this brave new world, it has an obligation to create new spaces

to which we can retreat as individuals and groups. If it does not, there is a danger that we will face totalitarian conditions of the sort described in literature, from George Orwell’s *Nineteen Eighty-Four* to Dave Eggers’s *The Circle*. A common feature of these novels is that “speech” is controlled and private spaces are deliberately eradicated.

I believe that research will succeed in establishing a truly private sphere within the digital realm. At the moment, we are still dealing with a world geared toward algorithmic efficiency, in which information is represented and transported using the minimum number of bits. It is already becoming clear that privacy solutions will involve a great deal of inefficiency, at least as measured by current standards. Since digital privacy has a price – in terms of disk space, computation time and energy consumption – the question of who can afford it will arise. I am confident. As has happened with encryption technology, the view that complete digital privacy constitutes a right will prevail.

Legal arguments about digital privacy – whether they be about the collection and storage of metadata, or the fact that it is a criminal offense not to disclose passwords, as in the UK, or the current proposals in the USA to require people to hand over DNA samples in

order to claim health insurance – have been going on for a long time. Whether we will ever be able to enjoy a right to digital privacy does not depend on science alone, but it is up to science to make that even possible. ■



**Christian Tschudin**

is Professor of Computer Science at the University of Basel, where he heads a research group dealing with computer networks. His research specialisms are mobile code, wireless networking, and security.

**D**ata protection is not principally about data security, as computer scientists often think. It is also not about the protection of data, as the term might suggest. Rather, it is about the protection of the fundamental and personal rights of the people about whom we process data. They should be able to decide as a matter of principle what information they reveal about themselves, and to whom.

Yet, the state, the economy, and research need information. Even social interaction does not work without information. Processing of personal data by the state represents a violation of the fundamental right to “informational self-determination” and is permissible only when it is legally sanctioned and proportionate. Private processing of data can be a violation of personal rights, and is only legal and, therefore, permissible when sanctioned by the consent of the person concerned, by an overriding public or private interest or by a law.

Take the example of research. If, where data are being used for research purposes, it is not possible to work out to whom they refer – in other words, if the data are collected anonymously or are anonymized – no personal rights can be infringed. There is no need to invoke data protection law in order to conduct research using such data. However, if the data are only pseudonymized, or even include identifying information, meaning that they can be linked back to the person they relate to, it is necessary to secure the consent of the “data donors” – under the Human Research Act, there is provision for general consent – or legal permission to (continue to) use the data without consent.

So far, so good. Still, this system, which strikes a balance between the competing interests of the need to carry out tasks, in the broadest sense, and personal rights, is now being called into question by various developments. The political response

to threats is reflexive, rather than reflective. Consent is no longer the outcome of a process of negotiation between equals. Saying “yes” to the installation of an app on a smartphone allows the provider to vacuum up data from the user’s contacts – without asking them. With the advent of big data, huge amounts of anonymized data can be linked up to make it possible, in certain circumstances, to identify the persons concerned. And cost pressures can lead to the outsourcing of applications and data to a cloud where you can no longer control who uses the data, and for what purpose.

Is this erosion of privacy something we can tolerate purely for the sake of greater security, more convenience or lower costs? Leaving aside the fact that the promised benefits often turn out to be illusory, privacy in the sense of informational self-determination is the oxygen of the democratic state, which depends on the participation of its citizens, of a society based on freedom and individual responsibility, and of the market economy, which relies on competition and informed consumers! Having a system too open to ma-

nipulation – that is to say, one of heteronomy, rather than self-determination – puts these liberal achievements in jeopardy. Protection of privacy cannot, therefore, be merely a private matter. We cannot simply go to the shop around the corner to retrieve our lost privacy – we need to take care of it beforehand. ■



**Beat Rudin**

is data protection officer for the canton of Basel-Stadt and honorary Professor of Data Protection Law and Information Law at the University of Basel. In 2016, he was awarded the city of Basel’s prize for scholarship.

Treatment of cartilage defects in joints is problematic, as conventional therapies sometimes lead to chronic pain or limited mobility. Researchers at the University of Basel and University Hospital Basel have developed a promising method for healing damaged knee cartilage, in which cartilage cells are harvested from the patient's nose and grown into a functional tissue in the lab. The resulting graft is then implanted in the damaged knee cartilage.

To this end, the researchers led by Professors Ivan Martin and Marcel Jakob adopt two innovative ideas: First, they use nasal cartilage cells, which possess superior growth and cartilage formation properties compared to cells from the knee joint. Second, they do not implant the cells themselves, but a mature tissue with properties similar to those of cartilage tissue in the knee joint.

In an earlier study, the group had already shown that nasal septum cells have a distinct capacity to grow and generate new cartilage tissue that is barely affected by age. What is more, animal trials with goats showed that the implanted nasal cartilage cells were compatible with the knee joint environment. In an initial clinical trial at the University Hospital of Basel, around 20 patients were successfully treated.

The research group in Basel is now conducting a trial to assess the effectiveness of the method, which is especially suited to the treatment of cartilage defects in healthy joints. The project, entitled "Bioengineered grafts for cartilage healing in patients" (BIO-CHIP) is supported by the EU funding program "Horizon 2020".

# From nose to knee.

Photos: Christian Flierl  
Text: Reto Caluori



Growing the tissue is a labor-intensive procedure that takes place in several stages.

First, the cartilage harvested from the nasal septum is trimmed in the lab and further broken down using enzymes in order to separate the cartilage cells from the tissue.

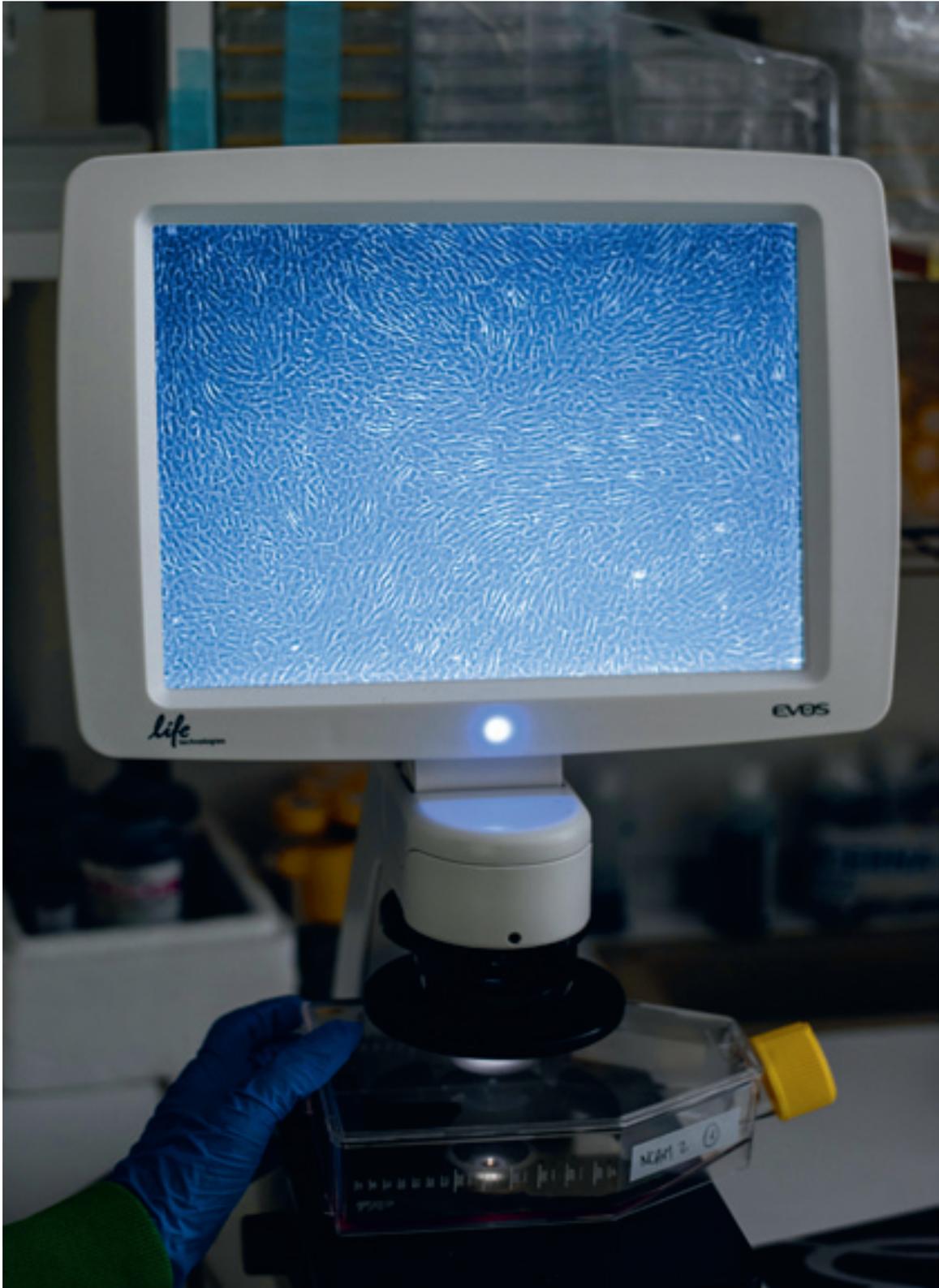
The tissue is then centrifuged to isolate the cartilage cells.





The cartilage cells are multiplied in a nutrient solution for two weeks, and then applied to a scaffold where they grow into a cartilage-like tissue able to withstand the mechanical strain placed on a joint.

During the multiplication stage, the tightly packed cartilage cells can be seen under a microscope.





In the operating theatre, the graft is tailored to the shape and size of the cartilage defect in the knee (left). After removing the damaged knee cartilage, surgeons implant the engineered cartilage graft.





From a patient perspective, the treatment leads to a significant improvement. Furthermore, no patients reported side effects attributable to the graft. The new treatment is now being tested in a clinical trial involving over a hundred patients.



**Ivan Martin**

is Professor of Tissue Engineering at the Department of Biomedicine, University of Basel and University Hospital Basel. He is currently academic lead on a study to test the use of cartilage cells from the nose to repair cartilage damage in the knee. The clinical component is based at the department of orthopedics and traumatology at University Hospital Basel.

# Working hours: autonomous workers are more productive.

When the cat's away, the mice will play – or so the saying goes. Despite the trend toward flexible working time, such as working from home and trust-based working time, these models are still the subject of concern at the management level. The economist Michael Beckmann challenges the idea that a lack of monitoring leads to idle employees.

Text: Olivia Poisson

**H**ow do different human resources strategies at companies affect their employees' performance? Professor Michael Beckmann of the University of Basel's Faculty of Business and Economics has been tackling this issue for several years. In his quest for answers, he uses large datasets to evaluate the various instruments empirically, focusing on measures that grant employees greater autonomy in terms of working hours. This is based on the idea that it can act as a powerful motivational tool. "I want to find out how the autonomy factor alters employee performance and what the implications of this are for management," says the economist.

Examples of these working time models include so-called "trust-based working time" – also known as self-managed working time – and working from home, in which employees largely decide for themselves when and where they do their work. The emphasis is on completing the agreed tasks, not on being present for a specified amount of time. Recording of working hours is either wholly or partly dispensed with.

## Human nature influences choice of instrument

Working from home is a particularly controversial instrument, with many employers fearing that workers could abuse the autonomy they are given. "When it comes to boosting motivation, the typical economist tends to think of performance incentives such as bonuses, performance premiums, or supervision," says Beckmann. This view is based on a concept of human nature referred to as homo economicus, which considers humans to be rational agents that maximize utility. This is accompanied by a rather pessimistic attitude regarding propensity to work. "Homo economicus has to be given external stimulus – extrinsic motivation – to make them do as they are supposed to."

This assumption about human behavior necessarily leads to the fear that employees only work when they are under supervision. For Beckmann, however, this concept of human nature falls short. "There are undoubtedly people who identify with their job, who enjoy their work, or who are conscientious by nature – they have what is called intrinsic motivation."

Other means are required if companies are to boost these employees' existing self-motivation, says Beckmann, who believes that worker autonomy has great potential in this regard.

## 80 minutes more

This year, Beckmann and co-authors published a major study on self-managed working time. The results showed that, quite apart from working less, employees with extensive control over their working hours actually work more. Once all other factors are controlled for, employees with self-managed working time work on average 80 minutes longer per week than employees with fixed working time. "The study clearly debunks fears that a lack of working time monitoring leads to laziness," says Beckmann. On the contrary, it appears that, for many employees, self-management is a powerful tool for intrinsic motivation. "That is not to say there aren't also employees who abuse their working-time autonomy – but the empirical data shows that a large number do not," he explains.

In general, the relevance of self-man-

aged working time models as human resources instruments increases with the employees' level of qualifications and the complexity of the tasks. As such, the model also has its limitations, Beckmann adds. Certain occupational groups that are tied to a place of work have little chance of working from home: doctors and nursing staff, for example, or factory or construction workers.

**Monitoring (often) fails, trust is (often) better**

The problems begin when companies attempt to compensate for this loss of control by using monitoring instruments. Beckmann gives the example of setting over-ambitious targets: If the employees are told that they can work when and where they like, on the one hand, but that they must also meet specified goals, this can have a counterproductive effect. Often, these goals are set so high that they are not realistically achievable, or they are constantly revised upwards on a dynamic basis: "This no longer has anything

to do with autonomy and puts the positive effect on performance in jeopardy." If companies opt for instruments based on autonomy, it is essential that they take trust seriously. Self-managed working time and working from home are only effective if there is an atmosphere of mutual trust. If the employees feel that they are being monitored, this destroys their original self-motivation.

**Flexibility is more cost-effective**

Despite the misgivings, working from your own home is currently in vogue. In Switzerland, too, a growing number of people are abandoning the office for at least some of the time. This is made possible in particular by modern communications technology. The office is becoming more dispensable, and many people value self-management and flexibility in the way they organize their time – especially when it comes to balancing work with family life.

"The emergence of flexible working time models also has to do with the

changing nature of work. On average, work tasks are becoming increasingly demanding," says Beckmann. Mounting competition and technological change call for a high degree of flexibility on the part of companies and employees, and the latter feel confronted with rising work demands and more flexible regulations.

Autonomy has a positive effect not only on performance; flexible working time models are also considerably more cost-effective than financial incentives as human resources instruments. For their part, the employees save time and money, as they can avoid often long commutes. For Beckmann, one thing is certain: "If the job allows it, working from home and similar models represent a win-win situation for companies and employees." ■

**Does self-managed working time affect employee extra effort?**



Source: Beckmann, M.; Cornelissen, T.; Kräkel, M. (2017): Self-managed working time and employee effort: Theory and evidence. *Journal of Economic Behavior & Organization* 133, Table 3, p. 293.

# Improving early detection of psychosis.



Text: Yvonne Vahlensieck

**P**sychosis – a severe mental disorder that makes a person temporarily lose contact with reality – is not a rare condition. Up to one percent of people will develop schizophrenia at some point in their lives, which in Switzerland would represent about 80,000 sufferers. However, it can take many years for the illness to be diagnosed, and late diagnosis has its consequences: Those affected need to take more medication, spend more time in the hospital, relapse more often, and have a higher chance of slipping down the social ladder. Against this backdrop, Professor Anita Riecher-Rössler has made early detection of psychosis a key focus of her research. Her aim is to identify people who are at risk of developing psychosis even before the onset of the illness so that treatment can start as soon as possible.

Together with her team, Professor Riecher-Rössler, a psychiatrist who heads the Center for Gender Research and Early Detection at the Psychiatric Hospital of the University of Basel (UPK), has devised a psychosis checklist for this purpose: In the first step, an experienced psychiatrist takes a detailed history from a person who wants to know their risk. This includes questions about temporary or less pronounced symptoms that are known to frequently occur years before the onset of the illness, for instance unusual perceptions, irrational fears, distrust and personality changes. In addition to these early symptoms, general risk factors such as genetic disposition or drug abuse are recorded. Based on the results, the psychiatrist can then assess whether a person is likely to develop psychosis over the next few years.

## Putting a premium on accuracy

However, making a prognosis at such an early stage is not uncontroversial: What if the prediction is inaccurate and the person never develops psychosis? Critics point out that false positives have particularly serious consequences in mental disorder diagnosis, as they tend to lead to stigma. Professor Riecher-Rössler is aware of the problem: “Psychiatric diagnosis demands much better risk assessment than other kinds of diagnostic testing. Accordingly, our research in the past few years has been aimed mainly at improving the accuracy of predictions.”

A number of studies had shown that approximately 40 percent of people who were classed as high-risk based on a checklist went on to develop psychoses within a few years. Professor Riecher-Rössler’s team conducted a new large study with the

aim of improving on this accuracy rate. They tried out a number of other diagnostic methods in order to identify additional warning signs of the condition. The study involved 234 participants identified as “at risk” based on the checklist, who then had a number of tests such as hormone analysis, magnetic resonance imaging (MRI) and neuropsychological tests. When some participants developed psychosis – up to seven years later – the researchers were able to prove that, in retrospect, some of the tests had indeed yielded early warning signs.

The MRI results showed that gray matter, which consists mostly of neuronal cell bodies, diminishes in some areas of the brain even before the onset of frank psychosis. What was already known was that the substance is gradually lost over the course of the illness. The Basel study showed that this process sets in at a much earlier stage. In addition, a deterioration of fine motor skills and some aspects of memory performance was detected beforehand. While each of these additional tests would not be sufficient on its own to reliably predict psychosis, Professor Riecher-Rössler and her team were able to increase prognostic accuracy by combining these methods with input from the checklist – in one study using additional neuroimaging accuracy was increased to more than 80%.

### New treatment approaches

Patients who learn through this process that they have a risk are not left to their own devices. Instead, they attend regular reviews, receive psychotherapeutic and social support, are educated about their condition, and so know exactly when to seek immediate help. If they do develop frank psychosis, they are also given antipsychotic medication immediately. “If there are only early symptoms and it is not yet frank psychosis, there’s no urgent need for the patient to take medication, so long as they have a stable life,” Professor Riecher-Rössler explains. If, by contrast, patients are at risk of suffering social deterioration, for instance by losing their job, then timely medication can be required.

Early detection of psychosis enables novel treatment approaches: There are plans to introduce a pioneering group therapy where people at risk of psychosis and new sufferers will meet to share experiences and learn how to deal with their (potential) illness. “For some advanced-stage patients, group therapy is no longer an option, because symptoms of the condition include a strong distrust of other people,” says Professor Riecher-Rössler.

A team at the Psychiatric Hospital of the University of Basel is developing new methods for early detection of psychosis. Timely treatment can have a decisive beneficial effect on the course of the illness.

### Growing understanding of root causes

The investigation of processes that occur in the body during the preclinical stages of psychosis is also providing new insights into how the illness develops. Still, little is known about its causes. Scientists currently favor a two-stage model which assumes that individuals have a certain level of basic vulnerability, for instance due to genetic risk. If, then, during the course of life, mental or biological stressors or factors such as cannabis use occur, this can trigger the outbreak of psychosis. Anita Riecher-Rössler thinks that there is no single cause: “There is probably not just one ‘schizophrenia’; we deal rather with a group of schizophrenic psychoses with different causes. One major shortcoming of research in this area is that often everything is lumped together.”

She is, however, convinced that research into causes will make rapid advances in the next few years. In recent years, the EU has approved funding for three large-scale multicenter projects: Using what is known as machine learning, computer programs will analyze data on a large number of patients to identify patterns: “This method will allow us to go beyond comparing groups and start predicting risk for individuals,” says Professor Riecher-Rössler. In the future, such analyses are expected to help detect psychosis as early as possible and also to differentiate subtypes. The next step would then be “personalized” treatments tailored to each individual patient. ■



**Anita Riecher-Rössler** is Professor of Psychiatry at the University of Basel, at whose Psychiatric Hospital she heads the Center for Gender Research and Early Detection. Apart from early detection of psychosis, she is carrying out research into the characteristics of mental disorders in women.

# From Erasmus to JavaScript.

Text: Urs Hafner

The University of Basel is positioning itself as a national center for digital editions. In doing so, it is helping to reinvent the tradition of editing established by Erasmus of Rotterdam at the bend of the Rhine river.

**P**ublishing editors are not generally known for being “innovative”. In the digital age, multivolume editions compiled according to specific standards that usually contain a writer or philosopher’s entire works are seen as a thing of the past; too lengthy, too expensive, too much paper.

This negative image is, however, undeserved, even if publishing editors do occasionally become stranded or even go under due to unreasonable expectations. A completed edition remains a monument encapsulating a great deal of thought and work. While turning a manuscript into a typewritten printed version may seem simple to the man on the street, it is in fact a highly demanding undertaking with its own academic field, editorial philology. Publishing editors ensure the transmission of important works and pass on cultural heritage.

## Foundations for research

Attack is the best form of defense – and digitalization offers an opportunity. Not by chance, the University of Basel is seizing this opportunity and modernizing the editorial process. In the German-speaking region, Switzerland is considered an editorial stronghold, and Basel has excelled as a Swiss editorial center. It all began in the 16th century, when the humanist scholar Erasmus of Rotterdam published his edition of the Bible. This pioneering strategy is being promoted by the Forum für Edition und Erschliessung (FEE), which coordinates editorial and literary projects at the University of Basel and is based in its library. “We want to be Basel’s Biozentrum of modern editorial practice,” says FEE managing director Samuel Müller. The Forum is establishing itself as a national coordination center

for the digital infrastructure of editorial projects by bringing together humanities, sciences, and textual and visual studies – a novelty in editing. It also aims to provide the foundations for humanities research: “Editing is actually basic scientific research,” says Müller.

Today, there are no editions that are not wholly or partly digital, be they the works of Johannes Atrocianus, Karl Barth, Walter Benjamin, the Bernoullis, Jacob Burckhardt, Leonhard Euler, Friedrich Nietzsche, Robert Walser, Anton Webern, or the papyri in the University Library Basel – all of which are connected to the FEE. The advantages of digital editions over purely paper-based editions are clear: You can keep on updating them and adding information, full text searches are simple, and it’s easy to link them with other works.

### Versions, variations, readings

“The FEE offers a digital editing environment,” explains Markus Wild, Professor of Philosophy at the University of Basel and director of the FEE. The Forum takes a three-pronged approach: It develops and provides the “basic technology” required for digital text editions, it secures the data collected during this work, and, as a player in the digital humanities, it develops digital tools that can benefit all humanities disciplines. To achieve this, it works with the Digital Humanities Lab at the University of Basel.

The Forum supports a wide range of projects, including literature, music, philosophy, and images. Some were conceived purely as analog editions, such as the Karl Barth edition that has now been going for quite some time. This is now being brought into the digital age in collaboration with the FEE. Software developers must familiarize themselves with conventional editorial practices. After all, publishing editors have different traditions and must often make major decisions. There is no definitive document that can simply be taken from the archive for editing or digitalization. Some texts have several versions that differ in places. There must be a clear reason for deciding which is the valid version.

Older texts often cannot be deciphered without some doubt remaining, and can be read in different ways. Even a printed text does not necessarily make this easier. Some publishers or typesetters may have altered passages against the author’s wishes, or inserted variations or even errors on the manuscript galley proofs due to time pressure. Ultimately, we need to ask what belongs to the work, and what does not. Interest is increasing in letters and diary entries; even the marginal may prove significant.

Just as there is no definitive text, editorial philology is not standardized. In the second half of the 20th century, different schools fought bitterly over the correct practice. Today, there are two main opposing movements: The historic/critical and the text-genetic/critical. The historic/critical movement reconstructs the state of the text as produced by the author for initial printing, and makes the work ac-

## Basel – an editorial hotspot.

Basel is becoming a national hotspot for digital editorial projects. This is being driven by the Forum für Edition und Erschließung (FEE), based in the University Library Basel. The Forum is working with the Universities of Basel, Bern, and Zurich and the Zurich Central Library to launch the “Nationale Infrastruktur für Editionen – Infrastructure nationale pour les éditions” (NIE-INE), a national editorial infrastructure financed by swissuniversities. The technological basis is provided by the national Data and Service Center for the Humanities (DaSCH) – initiated by the State Secretariat for Education, Research, and Innovation and the Swiss Academy of Humanities and Social Sciences – and the Digital Humanities Lab at the University of Basel. ■

cessible by supplying details of the text’s creation and reception, the author’s biography, and the historical context.

### Risks of digitalization

Meanwhile, the text-genetic/critical movement aims to map the text’s history as precisely as possible; the reader should be able to retrace the author’s writing process. Commentary is of no interest. A further branch of editorial philology developed based on the biological model of phylogeny is currently becoming established for the publication of particularly challenging medieval texts: Rather than creating a work, their authors processed on material passed down to them – like their predecessors and successors – which they then passed on themselves. This makes the question of the original text completely obsolete.

Digitalization may not remove these difficulties, but it does alleviate them. The medium allows a certain degree of flexibility, for example the text corpus to be considered. Still, digitalization does have its risks: Programs quickly become outdated, books are still the safest form of storage, and nobody knows how long digital data can be retained. Recently, the computers for the *Lexicon Iconographicum Mythologiae Classicae*, completed in 2009, had to be hacked to prevent all the data from being lost.

According to Wild, the FEE will make sure this never happens again. He explains that the Forum looks after not just the texts, but also the data and findings collected during the work, for example annotations and variations. Editing is research, and its results will no longer be left forgotten in a drawer once an edition is complete. After all, the FEE is part of the digital humanities and will drive their development for the benefit of all disciplines within the humanities that must get to grips with digitalization. For example, humanities researchers working today must have a firm understanding of the JavaScript programming language. Wild and Müller hope that, through the FEE, editing will take a more central role in humanities research, having previously been relegated to the sidelines. ■



Gardens and politics

# Botanical entanglements.

**Melanie Boehi** is a doctoral student at the Basel Graduate School of History and the Centre for African Studies Basel, and a fellow of the Humer Foundation for Academic Talent. She is also the founder of [nowseum.com](http://nowseum.com), a museum of now.

This intricate web of string, photographed in the Kirstenbosch Botanical Garden in Cape Town (South Africa) protects plants from hungry Egyptian geese. “What is the story told by this string figure?” – asks historian Melanie Boehi, a doctoral student researching the entanglements of botany, gardening, and politics in 20th-century South Africa. The photograph won Boehi a prize in the Swiss National Science Foundation’s scientific image competition.

Gardens and gardening are widely regarded as apolitical. Accordingly, garden historians have written very little about politics, while social historians have rarely taken gardens into consideration. This is true of the Kirstenbosch Botanical Garden, which was listed as a natural World Heritage Site by UNESCO in 2004 and is celebrated for its beauty and contribution to biodiversity conservation.

“However, this emphasis on natural heritage also limits the understanding of the functions of the botanical garden in the past and present,” says Boehi. In her dissertation, Boehi shows that, rather than having a uniformly positive effect on the environment and society, the garden has in fact been involved in complex processes of exercise and con-

testation of state power – from colonial times to the apartheid and post-apartheid eras.

Kirstenbosch was established in 1913 as a project of imperial and colonial manifestation on a piece of land from which indigenous people and descendants of slaves had previously been forcibly removed. The institution was complicit in this process, both indirectly by cultivating racist perspectives on nature conservation, and directly through its discriminatory treatment of black laborers. During apartheid, the State used pictures of plants and botanists for image campaigns at home and abroad.

“Reconsidering Kirstenbosch as a site not only of natural but also of cultural heritage, shaped by social relationships between humans and other living beings, especially plants, allows us to better understand the complex histories of the botanical garden,” says Boehi.

In this light, the function of the string figure extends beyond the merely practical: by intertwining people, wild geese, and the seedlings prized by both, it represents a multispecies history with which Boehi seeks to write plants and gardens back into historiography. ■

## Conservation biology

## Box tree moth on the rise again.

The box tree moth, an invasive species, is proliferating in the Basel area. About ten years ago, this small moth native to East Asia first came to Europe on board cargo ships before spreading from the port of Weil am Rhein to the Basel area. After the initial wave of invasion in 2009–10, the number of adult box tree moths trapped in Basel declined considerably. However, a long-term study conducted by the University of Basel's Conservation Biology Research Group now reveals that box tree moth numbers have increased by more than 300% over the past five years. The box tree moth's larvae, or box tree caterpillars, feed on box leaves and can consume a box tree's entire foliage in a very short time, causing serious damage to natural box populations as well as gardens and parks. In wooded areas of Northwestern Switzerland, up to 50% of box trees have been stripped bare by the moths. The scientists are not yet sure whether this is due to a slackening of garden owners' pest control efforts or to weather conditions that are conducive to the development of the moth. In the Basel area and western parts of the canton of Basel-Landschaft, the damage caused by box tree caterpillars is significantly more extensive than in the Waldenburger valley. The amount of damage is negatively correlated both with the presence of box rust, a fungus also native to Asia, and with distance from where the species was first introduced to Switzerland: Box trees in the vicinity of Weil am Rhein that are relatively unaffected by box rust suffer considerable damage from the moths. ■



## Archaeology

## What did the ancient Celts eat?

Recent research by Basel archaeologists confirms that the ancient Celts who once settled on what would later become the site of the city's gasworks (their settlement was in area now known as Basel-Gasfabrik) lived mainly on cereals such as barley, emmer and free-threshing wheat. Parts of the population also ate millet. Beef, pork, mutton, goat meat and dairy products played a minor role in everyone's diet, and chicken, eggs, salmon and dog meat were occasional additions. These are the results of analyses that researchers at the Integrative Prehistory and Archaeological Science (IPAS) and the Department of Ancient Civilizations of the University of Basel, along with German colleagues, performed on excavation finds from the ancient Celtic settlement, which existed on the bank of the river Rhine roughly from 150 to 80 BC. The research was undertaken together with the Archäologische Bodenforschung Basel-Stadt as part of a Sinergia project funded by the Swiss National Science Foundation (SNSF).

The researchers examined human skeletal remains from the two associated burial grounds and isolated skulls and bones found in the settlement itself. The Iron Age settlers' food habits were reconstructed based on carbon and nitrogen isotope analyses of 90 people, 48 animals and seven grain samples as well as zooarchaeological and paleoethnobotanical analyses. No significant differences were found between men's and women's diets. Children were breastfed until the age of eighteen months to four years. The researchers saw hardly any evidence of dietary lifestyles restricted to particular groups. Also, unlike some Celtic finds from the same period, no correlation was found between food habits and particular burial practices or contexts. Further studies are planned to investigate the social mechanisms behind the complex burial customs at the Basel-Gasfabrik site. ■

# Against dichotomy.

If a university should stand for anything,  
it is the ability to master complicated subject matter.  
A short paean to complexity.

Text:  
Markus Krajewski

**D**ay and night. Noise and silence. Migros and Coop. The world is divided. Thanks to digitization, it appears that almost everything can be expressed in binary terms. Despite the inevitable tendency to absorb what remains into the digital realm, there is still a gray area, an analog zone of pure phenomena and insights deserving of closer scrutiny; however, the danger is that they will be left behind in the current transition to digital. If we look more closely, this gap reveals a diverse landscape. From a technological perspective, the digital realm itself is anything but singularly or dually coded. Rather, the value ranges with which it operates are surprisingly wide. In electrical terms, a digital zero is not triggered by pure absence, but is represented in a TTL port by a variable voltage with tolerances and safety buffers between 0 and 0.8 volts (V). In literally the same way, the transistor stores the value 1 in the range between 2.4 and 5 V. The supposedly clear dichotomies in the digital realm collapse even at the material level of electrical engineering.

“Search all scholarly literature from one convenient place,” Google Scholar promises grandly, fail-

ing to mention that most of the stored texts fall short of library minimum standards for data recording and bibliography. If a library catalog listed the titles it was supposed to record with only 99% accuracy, it would be impossible to locate as many as 100 out of every 10,000 texts. It is thus possible to give a precise figure for what will be left out if the library of the future no longer has books in hard copy. And what will art history studies look like in future if soon scholars are consulting only databases, rather than the originals?

What is the benefit of the “new” insights that big data is currently promising in the digital humanities, with its uninhibited data positivism – mainly in response to questions first posed back in the 1950s? It is no coincidence that the Jesuit Roberto Busa, who, from 1949 onwards, spent decades feeding punch cards into an IBM mainframe to create indexes, has been identified as the progenitor of this young “discipline”. This may not be quite right, as it erases a genealogy that we can trace back further, to Leibniz and baroque universalism. Leibniz deployed a clever theological argument to justify his calculation

method using 0 and 1 – that God is everything and zero is nothing. From binary calculations of this kind, grounded in the distinction between God and nothing, a brand new digital world view came into being as early as 1696.

What underpins the almost transcendental hope of salvation associated with the digital humanities today? This attitude seems to be based, in part, on a deep-rooted sense of insecurity, on fear of being at the mercy of a digital opponent that can manifest itself in a variety of forms – as an input mask on a web form, as an error message during installation of an operating system, or as the feeling of helplessness that sets in when you are trying in vain to override a program default.

What might provide assistance in the face of this conflict? The answer is to develop critical expertise in coding as part of cultural studies – to acquire, as a basic cultural technique alongside knowing how to read, write and think in academic terms, the ability to read software code critically and to understand, reject or continue it. Not all knowledge – indeed, only a tiny fraction – can be applied directly, never mind translated into ordered numerical values. How do you measure the impact of an academic? Who is more productive, the colleague who publishes 10 seven-page articles, co-authored with seven other people, in “triple-A-rated journals” each year, or the one who writes a single 700-page text once a decade for a prestigious traditional publisher? No prizes for picking the winner – 10 to one odds on the person whose unwritten books will still be languishing unread on the virtualized book shelves in 100 years’ time. The half-life of knowledge increases as the number of pages falls.

And herein lies the real “asset” – to use the jargon – of institutions such as universities, which will always be fundamentally different from businesses. Universities understand that knowledge is for the long term and takes time to produce. They can remain detached from passing fashions, take delight in challenging mainstream thinking, and defy the call to limit their research to subjects with an immediate practical application. This is the true potential of a “universitas”: to be a community of more than just two cultures. However, universality is not necessarily something that can be attained within the span of a standard degree course. Above all, it is not something that can be transposed to the outside world in simple economic terms as soon as someone completes their bachelor’s.



**Markus Krajewski** is Professor of Media History at the University of Basel. He heads a research group that will spend the next four years studying the “media of exactitude”, in image, script and numbers, and the cultural technologies involved.  
[genauigkeit.ch](http://genauigkeit.ch)

What can help us along? Anyone who reads more than a couple of pages of Heidegger’s *Being and Time* will soon uncover a complex web of relationships. This is comparable to the discovery of a new software API for code development, where the concentrated, globally distributed mental effort of 50 full-time equivalents is laid out for you in condensed form. What we need is systematic intensification of complexity, not simplification or the erasure of difference – precisely calibrated language and increased abstraction, not reduction to the lowest common denominator. If there is one skill university graduates can apply profitably, it is the ability to master complex subject matter. Perhaps universities should take pride in the fact that they aim to develop this sort of commitment to diversity and going against the flow, to favor more complex solutions, as opposed to the black-and-white distinction between God and nothing, and to heighten awareness of the analog intermediate stages in the gray zone between bright light and darkness, where whole worlds concealed by dichotomous simplification open up and await discovery. ■

**“Perhaps universities should take pride in the fact that they aim to develop this sort of commitment to diversity and going against the flow, and to favor more complex solutions.”**

**Markus Krajewski**



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# AVENUE

Pornographie:  
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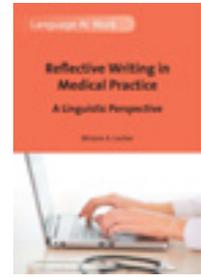
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oder unter [www.avenue.jetzt](http://www.avenue.jetzt)*

## Contemplating Communication

## Analyzing Reflective Writing in Medicine.

This work reports on a linguistic analysis of texts in which medical students and qualified physicians reflect on a memorable interaction with a patient. It explores the topics and communication skills that the writers address, how their narratives develop, what shape the texts take, and the genres that influence the composition. It also examines the way in which relational work surfaces in the texts, and how the writers use language to cast themselves as either experts or novices. The findings show that

both experienced and trainee physicians struggle with emotions when talking to patients, and with the idea of what it means to be a doctor. The author, Miriam A. Locher, Professor of the Linguistics of English at the University of Basel, combines analysis with insight to provide a valuable contribution to genre analysis, interpersonal pragmatics, and the study of identity construction. It is essential reading for anyone involved in teaching doctor-patient communication skills. ■



Miriam A. Locher:  
Reflective Writing in Medical Practice: A Linguistic Perspective  
Multilingual Matters, 2017  
232 pages, GBP 99.95

## Vibrant Portraits

## Focus on Jewish Modernity.

Makers of Jewish Modernity presents leading Jewish figures who have helped shape the modern world over the past 100 years. Featuring more than 40 incisive portraits, the book explores political figures including Walther Rathenau, Rosa Luxemburg, and David Ben-Gurion, and philosophers and critics such as Hannah Arendt and Jacques Derrida. It offers fresh insights into the life and work of novelists such as Franz Kafka, Saul Bellow, and Philip Roth, and of the filmmakers Joel and Ethan Coen. Social scientists such as Sigmund Freud, and reli-

gious leaders such as Avraham Kook and Martin Buber also feature among the portraits. Written by a group of leading contemporary scholars – including Jacques Picard, Professor of Modern and Jewish History and Cultures at the University of Basel, and Idith Zertal, an Israeli historian who has taught at the University of Basel – these vibrant and often surprising portraits demonstrate the multiplicity of Jewish experience and thought from a global perspective. ■



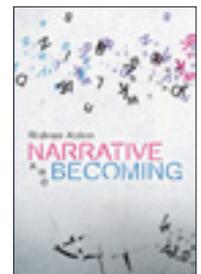
Jacques Picard, Jacques Revel,  
Michael P. Steinberg, Idith  
Zertal (eds.): Makers of Jewish  
Modernity: Thinkers, Artists, Leaders,  
and the World They Made  
Princeton University Press, 2016  
688 pages, USD 39.50

## Redefining Narrative

## A New Deleuzian Mode.

What is narrative? This question is the starting point for Narrative and Becoming, a book that seeks its answers in aesthetics, contemporary North American fiction, Gilles Deleuze, narrative theory, and the recent speculative turn. In the process, author Ridvan Askin, postdoctoral and research teaching fellow in American and General Literatures at the University of Basel, develops a transcendental, empiricist concept of narrative. He

argues against the established consensus on narrative theory and advocates a view that sees narrative as fundamentally nonhuman, unconscious, and expressive. The book includes close readings of works by Ana Castillo (The Mixquiahuala Letters), Michael Ondaatje (The Collected Works of Billy the Kid), Colson Whitehead (The Intuitionist), and Mark Z. Danielewski (House of Leaves). ■



Ridvan Askin:  
Narrative and Becoming  
Edinburgh University Press, 2016  
224 pages, GBP 70.00

# Talking about language.

Text: Sarah Schupp Photo: Andreas Zimmermann

**N**ever really a bookworm, Martin Luginbühl has however been fascinated by language since he realized the huge impact words can have as a young boy in Schaffhausen. “In a family of three children, there is always a lot of talking and verbal negotiation. And because, as the youngest, I was seldom able to physically defend myself against my siblings, I practiced verbal resilience,” he says with a smile. He later decided to study German in Zurich – where he still lives with his family – drawn initially by ideas of grammar and syntax. While at university, however, Luginbühl learned about applied linguistics and entered a previously unknown linguistic world. From that point on, he focused intensively on the use of language in specific contexts and on observing authentic communication.

## Constructing reality

Around a year ago, the 47-year-old academic moved into his office in the German department on the idyllic Nadelberg in Basel, where he researches and teaches media linguistics and conversational analysis. In fact, he is less interested in language as a system of signs than in its effect on social interaction and its use for specific purposes. Media linguistics is the perfect way to answer these questions. In his doctoral dissertation, *Gewalt im Gespräch* (Conversational Violence), Luginbühl examined the effects of linguistic behavior on “Arena”, a TV political debate program. Subsequently, he researched

the linguistic construction of media reality: “This looks at aspects such as how information changes as it passes through media processes – from a press conference to a media release through to radio, TV, and newspaper reports,” he explains.

## Watching the daily news

When talking to Luginbühl, it quickly becomes clear that he is particularly interested in TV news programs and the way in which they present information to the public as authentic reality. He was surprised by the findings of his analysis on the historic development of the ‘Tagesschau’ daily news program on the channel SRF: In the beginning, in the 1950s, two thirds of its segments were a mixture of information and entertainment. For example, the news shows broadcast a piece on a ballerina who performed with a tiger – “pure entertainment.”

Over the next 20 years, newsreaders became very sober and distanced, as Luginbühl’s analyses show. In the 1980s and 1990s, he noted another clear paradigm shift in reporting: The earlier newsreaders were replaced by presenters who created an emotional and local connection with the audience; correspondents were shown directly at the scene of the action. Luginbühl explains that, currently, correspondent reports are again showing a tendency toward sober, factual language, while introductions remain entertaining and dynamic. “The history of ‘Tagesschau’ isn’t a continuous evolution toward

more entertainment; it’s more of a wave-like movement.”

With research like this, Luginbühl is tackling the overarching question of how journalistic culture expresses itself through language – and how it is created by language in the first place. Interdisciplinary media linguistics enable an holistic approach by considering linguistic elements such as word choice and sentence structure as well as topic development, links between language and images, and intonation.

We are surrounded by media every day and everywhere. Is it even possible for a media linguist to switch off? “There is probably an aspect of ‘déformation professionnelle’,” Luginbühl admits. “I can’t consume any mass-media product without also analyzing it. Sometimes, I’m not even sure whether I’m working or just being myself.” So it’s no wonder that many of the examples in his lectures are taken from his daily interactions with media. There is only one medium that allows him to sit back and relax: “I can only truly switch off in the cinema – I become totally engrossed in the movie and immerse myself in fictional worlds.”

Luginbühl is passionate about teaching the theoretical background to linguistics. He began sharing knowledge shortly after graduation and spent 13 years teaching high-school German while continuing to research. This was an important additional string to his bow: “Positions at universities for early career researchers are

**Martin Luginbühl**

was born in 1969 and studied German language, literature, and history at the University of Zurich, where he obtained his doctorate in 1998. He worked as a part-time high school teacher alongside his academic work.

Before his appointment in Basel, he was a Professor of German Linguistics at the Université de Neuchâtel.



Martin Luginbühl is a language enthusiast. His passion as Professor of German Studies is for applied linguistics – such as language use in the media.

fixed-term and don't allow you to plan for the long term. As the father of two children, I was particularly keen on job security," he explains. He always enjoyed teaching and collaborating with pupils, and still has an interest in new teaching methods.

In 2003, Luginbühl decided to concentrate fully on an academic career. One year later he moved to the USA thanks to a scholarship from the Swiss National Science Foundation. He spent two years in San Diego comparing the composition of media reality on the 'Tagesschau' and CBS Evening News programs. Back in Switzerland, he increasingly dedicated himself to his second passion: Examining the role speech plays in teaching and as a learning objective. He is currently expanding this research as part of a project on the development of verbal argumentation skills in Swiss school children. "These findings can feed directly back into practice and be used for self-reflection," Luginbühl says.

Whether media linguistics or conversational analysis, both fields of research in such "hyphenated disciplines" feed Luginbühl's fascination for the meaning of language in social interaction and in connection with other, non-linguistic aspects. Still, he does not restrict his academic work to a specific method or question: "My curiosity doesn't stop at the boundaries of linguistics – and that is precisely what makes my research so exciting." ■



Kurt Pelda, Winner of Alumni Award

## “I had to learn how to study.”

Text:  
Bettina Huber

Dr. Kurt Pelda, an alumnus of the University of Basel, is a war reporter and freelance journalist. He has stayed true to the vow he made on receiving his doctorate in economics: Always to think of the pursuit of truth as a serious and noble task; to make every endeavor to achieve this aim and to carry out all activities in a responsible, conscientious and equitable manner. He has been given the 2016 Alumni Award in recognition of his commitment.

**UNI NOVA:** Mr. Pelda, you say that you're a "freelance war reporter but no adrenaline junkie." As a journalist, what motivates you to seek out high-risk conflict areas?

**KURT PELDA:** I'm not in it for the adrenaline rush, which is something I'm often accused of. That would mean a completely passive experience – and I want to have an impact! That ambition was even stronger when I was 20 – I used to kid myself that I could change the world. What I can say today is that at least I try. I'm not in development aid and I'm not a medical doctor; what I do is give people in war zones a voice. The excuse "I have no idea what's going on there" is no longer valid today.

**UNI NOVA:** What memories of the University of Basel did the alumni award spark for you?

**PELDA:** I had quite a tough time at Basel initially. I had been at the top of my class in secondary school, but once I started university I had to learn how to actually study, which meant sitting down and hitting the books. Toward the end of my course, I acquired important skills such as focusing, abstraction and joined-up thinking, which were to benefit from some interdisciplinary collaboration. This has helped me to do my job responsibly.

**UNI NOVA:** Does the University of Basel still play a role in your life?

**PELDA:** My time at Basel certainly had a lasting impact. I still seek advice from people I met during my four semesters of Islamic Studies. And my course in economics led to me meeting both the mother of my children and my best friend. Sharing a meal with other alumni gave me the opportunity to take a fresh look at both the university and the city. For example, I found former professors of mine were perfectly approachable people. My escape from Basel and the confines of Switzerland led to what I do today, among other things; and also taught me again to be thankful for the fact that Switzerland is a safe country and a well-functioning state. ■

Alumni Association – Basel Economists

# Mentor wanted – mentor found.

Since the fall semester of 2016 the Vereinigung Basler Ökonomen (VBÖ), the alumni organization of the Faculty of Business and Economics at the University of Basel, has offered a mentoring program for students of the faculty. It is intended to facilitate the personal transfer of know-how and career planning strategies.

Text: Stefanie Hof-Seiler

**M**entoring is one of the most important and most effective instruments in today's working world for exchanging information and views, learning from one another and sharing experiences and contacts. In the mentoring program of the VBÖ, alumni with well-established careers act as mentors to individual ambitious students, or mentees, helping them to further their development and broaden their professional and specialist skills. One-to-one mentoring relationships form the heart of the program: the mentors pass on to their mentees both advice on career-development strategies and informal knowledge.

The program is open to a limited number of business and economics students – ten during the pilot phase – at Bachelor, Master and doctoral level. The VBÖ acts as an intermediary, matching mentees with mentors. Care is taken not only to find a good match but also to take the participants' wishes into account. The mentoring partnerships have got off to a promising start. The VBÖ is confident that the mentees will benefit from their contact with experienced professionals and hopes that later on they in turn will pass on their experience to younger economists.

“Engaging with a mentor helps you to recognize key competences that go be-

yond what is taught in the lectures and to develop them while still at university. My mentor is very dedicated and extremely helpful. I'm convinced that I'll learn much more valuable advice from him,” says Sebastian Rippstein, one of the participants in the program.

Mentor Danilo Tondelli adds: “Supporting young associates in their working life and helping to shape their development was one of the most enduring tasks in my work as a superior. In the VBÖ mentoring program I enjoy the privilege of gaining an insight into the way the younger generation lives and thinks when exchanging views with my mentee. In addition, providing the students with practical advice that can help them when organizing their studies, choosing a career, and starting out in working life is the most important task of my privileged generation.”

Another mentee, Maik Fischer, also draws a positive conclusion: “In this day and age, when university studies are mainly theoretical, the program provides me with support at the beginning of my working life. What I like in particular is that I can discuss the direction the coaching should take individually with my mentor. I was able to reflect on my current status, for example, and also check

out various firms. Moreover, I gained insights into job application processes and the instruments used in them.”

And his colleague Benedikt Porten says, “Degree studies in business and economics can sometimes be very theoretical – far from the reality of the working world. So it's helpful to know you have a mentor with broad practical experience at your side. I consider establishing contact with the business world while still at university to be essential for one's own career. The program therefore represents a great opportunity. The informative and intellectually fascinating conversations give me valuable tips and ideas for planning and developing my career.”

The Vereinigung Basler Ökonomen was founded in 1988 with the aim of strengthening the unity of the Basel alumni among themselves and their relationship with the university and its students. Its members, over 1500 in number, take on roles in business and society that are challenging at regional, national and global levels. ■

[vboe.ch](http://vboe.ch)



Book publication

## Rainer Brambach – a biography.

The poet Rainer Brambach (1917–1983) left behind about 140 poems and two dozen short stories. This body of work, while small, is exceptional in its quality and originality. Born a German national in Basel, Brambach was expelled by the Swiss authorities and sent to Germany in January 1939. After a month in the Reichsarbeitsdienst, a labor service, he faced being drafted into the Wehrmacht. Brambach fled back to Switzerland, where he was interned and declared 'stateless'. That was when he started to write. Combining the roles of poet, casual worker and landscape gardener, Brambach stood out on the postwar literary scene. He published texts in prestigious literary magazines and won two poetry prizes even before his first collection of poems had been published.

Isabel Koellreuter and Franziska Schürch, the authors of this new biography – both graduates of Basel University – came to know Brambach via Ulea Schaub, his third and last partner. It was she who approached them with the idea of marking his 100th birthday with a publication commemorating his life and work. The two authors describe Brambach's

poems as "authentic, melodic and sensual". "We were immediately taken by his story and his language". They looked at archival material and reminiscences from Brambach's colleagues and companions. They also read their way through his writings, including poems, stories and an extensive correspondence with friends such as Armin Mohler, Günter Eich and Hans Bender.

Isabel Koellreuter worked as a freelance historian for museums and colleges, conducting research and writing for various publications. She was a founding member of the association for history alumni. Franziska Schürch received her doctorate for a study on the collecting of folk art. She subsequently held teaching and research positions and was academic director for the inventory of Swiss culinary heritage. The two authors set up the "Schürch & Koellreuter, Kulturwissenschaft und Geschichte" office in Basel in 2010. ■

Rainer Brambach – Ich wiege 80 Kilo,  
und das Leben ist mächtig.  
A biography by Franziska Schürch  
and Isabel Koellreuter.  
Diogenes, Zürich, 2016, 272 pages, CHF 32

Benefits

## Discounted tickets to Theater Basel.

Since the start of the year, discounted tickets to Theater Basel have been available to AlumniBasel members. So far, 2-for-1 tickets have been offered for the operas "La forza del destino" and "Don Giovanni". These promotions were very popular and more are planned. For details, check the alumni newsletter and the AlumniBasel website.

The Monkey Bar is where Theater Basel experiments with special and unusual programs of particular appeal to a younger audience. Thanks to its partnership with Theater Basel, AlumniBasel trial members can access special offers and discounted tickets here, too. ■

Membership campaign

## Alumni Challenge 2016.

Barbara Dolanc has won the AlumniChallenge 2016, in which every active member aims to recruit one new member. As a reward, she will enjoy brunch in Basel's upmarket hotel "Les Trois Rois". Barbara has been a member of AlumniBasel for 12 years, studied humanities and marketing, and currently works as an advisor and coach at Kiebitz, a professional reorientation organization run by the Christoph Merian Foundation. ■

Letter from Barcelona

# Research with a sea view.

Ivo Gut, genome researcher

**Ivo Gut** obtained his doctorate in Physical Chemistry in Basel in 1990 and now runs the Spanish/Catalan genome analysis center in Barcelona.

**H**ow do you go from physical chemistry in Basel to genome research in Barcelona? Three days after my doctoral defense, I boarded a plane to the USA. After three years as a research fellow at Harvard Medical School in Boston, I returned to Europe – to London and Berlin as head of a research group. In 1999, I was invited to head up technology development at the 'Centre National de Génotypage' in Paris, where I rose to the position of associate director. In 2010, I was appointed Director of the 'Centro Nacional de Análisis Genómico' in Barcelona, the sunny and vibrant city with a view over the Mediterranean.

When I left Basel in 1990, the concept of genome research was as yet unknown, let alone established as a course at a university. Physical chemistry provided me with many valuable tools – an understanding of incredibly large and small numbers, the construction of complex analytical devices, statistics, and computer science. I remember programming a mainframe computer in the Biozentrum, which we had to feed with punch cards – today, any cell phone is a thousand times more powerful.

Chemistry was not a popular subject in the 1980s, but for me it was exciting and a huge challenge. I particularly recall attending lectures in physical chemistry by Professor Edgar Heilbronner, who delivered his lectures freely without needing to look at notes, and the commitment to sound argumentation of my doctoral supervisor Professor Jakob Wirz.

Over the last 25 years, genome research has become one of the most important disciplines in modern biology and medicine. The initial sequencing of the human genome, which took ten years, was completed in 2003 and cost several billion dollars. Today, we are able to decode a human genome in a few days for a few thousand francs. Our high-resolution technologies can read the genomes of cancer cells to refine treatment strategies. We can identify the genetic causes of hereditary diseases, and we are deepening our understanding of biological functions. Today, complex, highly sensitive machines and mainframe computers are the main tools of our trade. ■



View over the Camp Nou stadium out to the Med: Ivo Gut on the roof of the genome analysis center in Barcelona.



**Wolf Langewitz** is Emeritus Professor of Medicine and a lecturer in Psychosomatics at the University of Basel. His main area of interest, besides phenomenology, is communication with patients.

Photo: Andreas Zimmermann

**Wolf Langewitz**

## Hermann Schmitz's Phänomenologie der Zeit.

**“Past’ and  
‘present’ cannot  
be distinctive  
characteristics  
of my person.”**

This fascinating book suggests ideas I would not have thought of myself (or not in the same way). Although I re-read it continually, I never find myself getting bored. The subjects it deals with are not exactly mundane. Why should I be interested in the difference between an “attribute” and an “Existenz-Inductivum”? Because I wonder how much of the man who began his studies in 1971 is still present in the one writing this today. “Past” and “present” cannot be distinctive characteristics of my person; such characteristics would be “attributes” proper to only that one person (or thing). Indicators of time or place are only Existenz-Inductiva “die für ihre Identität als diese Sache belanglos sind” (that are irrelevant to its identity as that thing). Thus a thing can be the same in the past and the present “weil Gegenwart und Vergangenheit keine Attribute sind” (as present and past are not “attributes”).

In my professional life, I was often struck by how, when faced with bad news such as the failure of chemotherapy for cancer, people did not abandon all hope, but instead managed to remain optimistic. Their accounts of moments in which hopes are dashed are often dramatic (“I was devastated!”), sug-

gest that they lost all sense of time (“I don’t know how long I was with the doctor”) or signal the start of a new era (“When we came out of the surgery, the world had changed”). The new breaks in, “(das) die gleitende Dauer des Dahinlebens und Dahinwährens zerreisst und ins Vorbeisein verabschiedet (...) Die Person sinkt dann in ihr Hier und Jetzt ein, die mit einander und mit ihr verschmelzen, und die Wirklichkeit packt den Betroffenen unmittelbar, ohne ihm Spielraum für Differenzierung zu lassen; alles schrumpft zur Eindeutigkeit auf die Spitze des Plötzlichen zusammen” (disrupting the flow of everyday life and consigning it to the past (...)) The person becomes immersed in their here and now, which become one with each other and with the person affected, and reality takes immediate hold of them, without allowing them scope for differentiation; in a flash, everything is reduced to black and white). What remains unclear is where to look for fresh hope. The thought that there is an element of permanence that this sudden irruption cannot destroy completely, but leaves untouched, is helpful here. That is exactly what people mean when they say, “But life goes on!” ■

## A selection of events. May–November 2017



May 18, 6.15 pm

### Ghost Stories of an Antiquary: Classical Antiquity through the Lens of Victorian and Edwardian Horror Fiction

Lecture by Professor Sarah Iles Johnston, Ohio State University. University Kollegienhaus, lecture hall 117, 1st floor, Petersplatz 1, Basel

May 19, 7 pm

### FameLab: Swiss final

The winner will represent Switzerland at the international FameLab final at the Cheltenham Science Festival.

Markthalle, Steinentorberg 20, Basel

May 31, 5 pm

### Individualization in drug therapy

Lecture by Dr. Alexander Jetter, Clinic for Clinical Pharmacology and Toxicology, University Hospital Zurich.

Pharmazentrum, lecture hall 1, Klingelbergstrasse 50–70, Basel



June 11, 1 pm

### TEDxBasel 2017

The third annual TEDxBasel will feature a wide range of subjects and a diversity of speakers curated to connect people across disciplines and create conversations that drive action. There will be music that delights and concepts that intrigue. The event brings together the leading thinkers, social entrepreneurs and change-makers from in and around Basel. [tedxbasel.ch](http://tedxbasel.ch)

Musical Theater Basel, Feldbergstrasse 151, Basel

June 29–July 1

### European Conference on African Studies

The biennial European Conference on African Studies (ECAS) is the largest and most important convention in the field of African Studies in Europe. The 7th edition of the ECAS will take place at the University of Basel in summer 2017, organized by the Centre for African Studies Basel and the Swiss Society for African Studies.

The conference theme “Urban Africa – Urban Africans: New encounters of the rural and the urban” addresses issues raised by current African urbanization trends. These range from politics, through economics, all the way to social and cultural issues.

[ecas2017.ch](http://ecas2017.ch)



July 20, 6.15 pm

### From the Outsourcing of Production to the Dislocation of R&D?

One of the central implications of Ricardian trade theory is that comparative advantages determine the export and import structure of a country. But how does investment in Research and Development (R&D) fit into this picture? And, is it possible for a geographic location to retain its strength in R&D in the long run without local production facilities? Professor J. Bradford Jensen (Georgetown University) will give a short presentation of his findings on the R&D activities of U.S. multinationals in the manufacturing and service sector.

Faculty of Business and Economics, Peter Merian-Weg 6, Basel

August 27–29

### International Conference on Molecular Systems Engineering

Biological systems display properties that cannot yet be matched by synthetic approaches. Implementing the advances in life sciences into the structural and design options of synthetic molecular systems is a major scientific challenge and offers one of the greatest economic potentials of our time. To address this challenge, the International Conference on Molecular Systems Engineering (ICMSE) will bring together world leaders in the characterization and engineering of complex chemical and biological systems.

[nccr-mse.ch](http://nccr-mse.ch)



October 2017

### Globalization, Renewable Resources and the Environment

Over the last 30 years, research in international trade has increasingly focused on the issues of globalization, renewable resources and the environment. The most important pioneer in this research is the Canadian Professor M. Scott Taylor from the University of Calgary. He showed that the virtual extinction of the American Buffalo in the Great Plains in the 1870s was due to international trade with Europe. In his public lecture, Prof. Taylor presents the content of his new book and discusses these crucial issues with the audience.

Universitätsbibliothek Basel, lecture hall (1. OG), Schönbeinstrasse 18–20, Basel

November 2, 6.00 pm

### Learning and Memory: Lessons from Neurology

Lecture by Bradley T. Hyman, Professor at Harvard Medical School. The SeminBar brings new knowledge on molecular systems engineering to researchers and the interested public alike.

Ackermannshof, St. Johanns-Vorstadt 21, Basel



kunstmuseum basel

# ¡HOLA PRADO!

TWO COLLECTIONS IN DIALOGUE

8. April — 20. August 2017  
Neubau: St. Alban-Graben 20