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JUNGE AKADEMIE MAGAZIN

ENGLISH EDITION

DOSSIER

Borders – Overcoming Obstacles

PROJECTS

Online Platform: 'How family friendly is Germany's academic system?'

JA INSIGHTS

Holy Texts and the Fascination of Unknown Times



THE JUNGE AKADEMIE

The *Junge Akademie* (JA) was founded in 2000 as a joint project of the Berlin-Brandenburg Academy of Sciences and Humanities (*Berlin-Brandenburgische Akademie der Wissenschaften – BBAW*) and the German National Academy of Sciences Leopoldina (*Deutsche Akademie der Naturforscher Leopoldina*). It is the world's first academy of young academics. The *Junge Akademie* is co-owned by both academies, the *BBAW* and the *Leopoldina*. Since 2011 it has been firmly anchored administratively in the Leopoldina's budget and funded by the Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung*) and the *Länder* Berlin, Brandenburg and Sachsen-Anhalt. Its fifty members, young academics from German-speaking countries, engage in interdisciplinary discourse and are active at the intersection of academia and society.

EDITOR'S LETTER

Editorial decisions are subject to their own laws. When we decided on “borders” as the focus of the dossier for the *Junge Akademie Magazin*, we had no way of knowing what a hot topic it would become by the time we went to press. And so, in light of border fences, border controls and maximum limits, our magazine is practically as current as a daily publication.

Borders have always determined our lives. We encounter them in many different ways. On my daily commute to the laboratory in Marburg, I pass the former castle of the local ruler. This border castle marked the boundary between the lands of the ruler of Thuringia and the archdiocese of Mainz, a boundary of long-lost significance in these times of free movement within the Schengen Zone. In this issue, ethnologist Silja Klepp discusses how this new intra-European borderlessness ultimately led to Europe sealing itself off and exacerbating the current refugee crisis. In this context, Klepp is organising a conference on ‘Refugees at German Universities’ to be held in Berlin in mid-May.

Borders are important. When I cycle to work, I often encounter red traffic lights that limit my movement during the journey, but they also show me how useful boundaries are for regulating the way we live together. The media culture scholar Evelyn Runge writes about the positive aspects of borders: when it comes to photo journalism, where does morality begin and end? Meanwhile, the literary scholar Caspar Battegay participates in an experimental dialogue with the universally feared deadline, without which this issue would probably not exist.

Borders challenge us. Once I have arrived at my laboratory, I am still engaged in crossing boundaries. As a synthetic biologist, I study the border between organic and anorganic material. The chemist Hans Jakob Wörner, who conducts research on atomic dissolution, reports on academic ‘boundary experiences’ in his work. The psychologist Philipp Kanske, the linguist Christian Stein and the historians of science Fabian Krämer and Veronika Lipphardt round out the dossier with contributions on inter-personal and interdisciplinary borders. As members of the *Junge Akademie*, we are continually confronted with the latter and must keep finding new ways of overcoming them. *All barriers exist only to be overcome*, wrote Novalis.

On that note, the editorial team and I wish you boundless enjoyment while reading this issue.

Tobi J. Erb



The port of Rostock: anyone wanting to cross the border and catch a ferry to Sweden must first make it up this ramp

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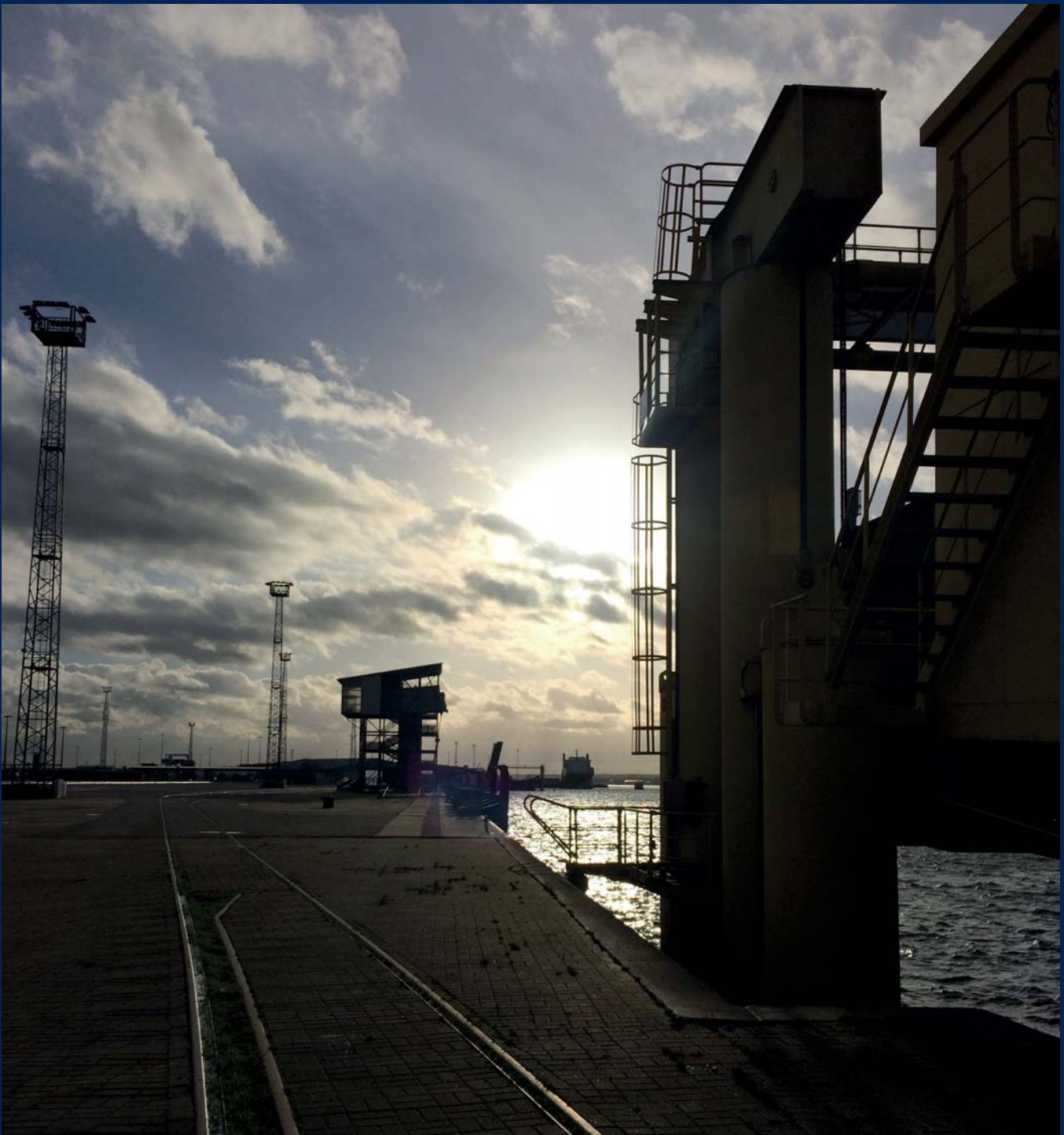
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Staring into the sun at the port of Rostock: in front of the ramp leading to the ferry to Trelleborg, Sweden

BORDERS – OVERCOMING OBSTACLES

CONCEPT TOBIAS J. ERB

‘Borders destroyed the circular migration in the Mediterranean region,’
says Silja Klepp (*page 7*).

‘Many research areas – and occasionally entire disciplines – completely defy categorisation,’
state Fabian Krämer and Veronika Lipphardt (*page 16*).

‘At any point where innovation is supposed to happen, established systems and concepts of identity are called into question,’
notes Christian Stein (*page 19*).

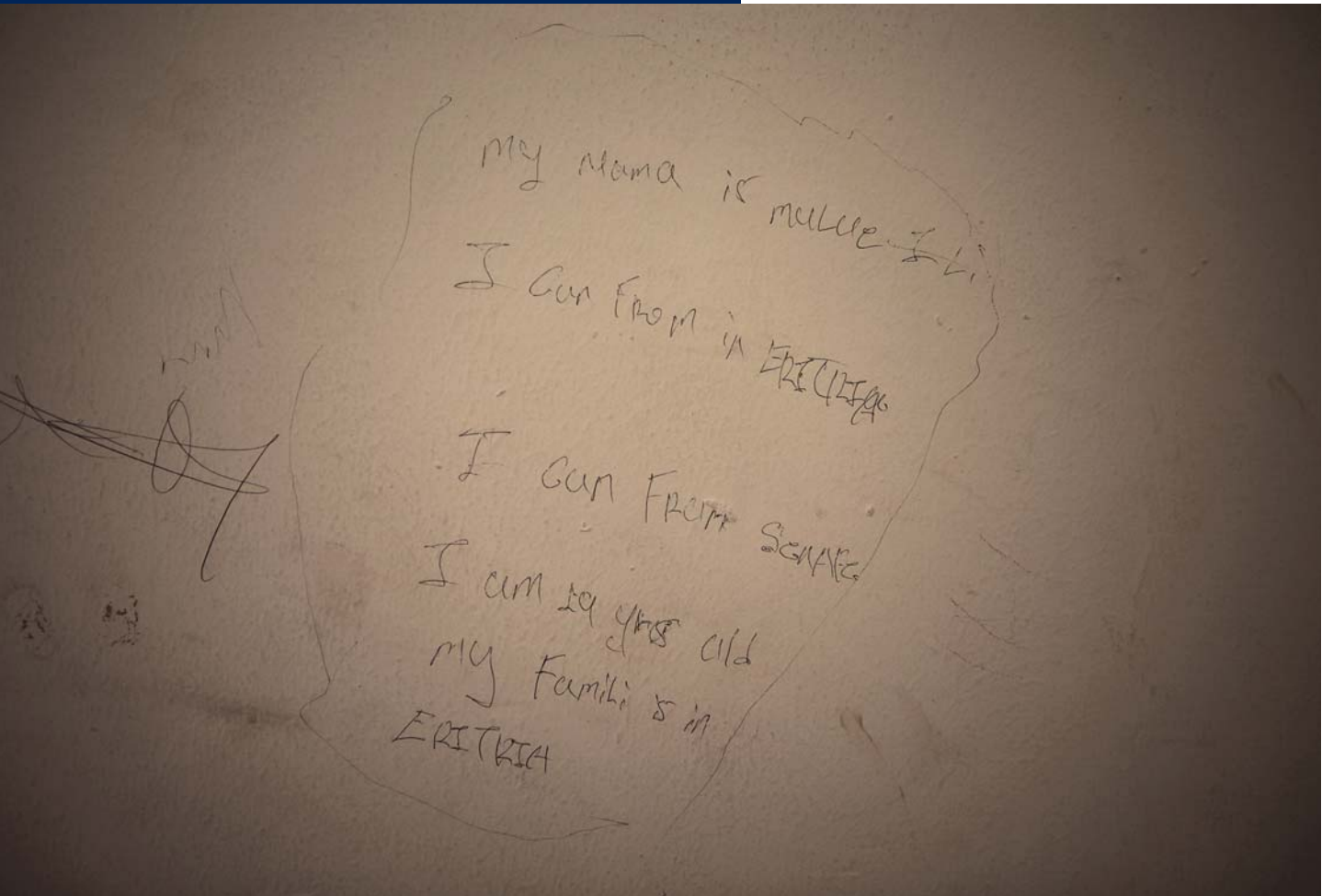
‘Are there physical boundaries to life?’
asks Tobias Erb (*page 22*).

‘With every experiment, the borders in attosecond research are pushed further out,’
reports Hans Jakob Wörner (*page 24*).

‘Nowadays it is almost impossible to view photo reporting in isolation,’
writes Evelyn Runge (*page 28*).

‘At your approach, the apologetic emails start pouring in,’
Caspar Battegay says in dialogue with the deadline (*page 32*).

‘As a society, we must ask ourselves if we want to become more aware of the possibilities for overcoming the boundaries between ourselves and the other, and even the foreign,’
notes Philipp Kanske (*page 34*).



Scribbles from a teenager thinking of his family in Eritrea.

To cross from Libya to Italy, migrants must pay between 1,500 and 3,000 euros. Many leave on their own initiative and do not tell their parents of their plans.

EUROPE'S FORGOTTEN SOUTHERN BORDER – IN PICTURES

To create their photo essay, Line Zachariasen and Lisa Staugaard visited Sicilian refugee camps. Their goal was not to illustrate individual fates, but to depict the situations in which migrants are forced to live after their arrival in Europe. Their work was honoured in the context of the 'Who Gets Carried Away by Europe?' contest organised by the European Young Academies in May 2015.

‘BORDERS CREATE A MARKET FOR CRIMINAL NETWORKS’

Nobody is deterred by fences, argues ethnologist Silja Klepp, and points to the filter function of Europe’s deadly external borders

INTERVIEW DIRK LIESEMER



THE ETHNOLOGIST

Silja Klepp is a researcher at the artec | Sustainability Research Center at the University of Bremen. Her current research project focuses on climate change and migration in the Central Pacific.

Together with several other members of the Junge Akademie, she is organising a conference entitled ‘Refugees Welcome?’ to be held on 13 May in Berlin. The conference will examine initiatives to support refugees at German institutes of higher learning.

JAM: Do you think a world without borders is possible?

Silja Klepp: Borders are political constructs that have not been around for very long. Even into the mid-1990s, Africans were able to obtain visas pretty easily and were able to travel to Spain or Italy without many obstacles. Only then did the rigid Schengen borders come into effect. Today Europe is increasingly sealing itself off, but this policy is neither a permanent solution nor is it morally justifiable. And besides, by now we’re facing the question whether it makes sense to have borders at all: many people have access to the internet, television and media.

JAM: The whole point of borders is to prohibit people from migrating freely.

Klepp: Of course, but no one should convince themselves that they can simply lock the rest of the world out. Our world is experiencing an increasing divide between poor and wealthy regions. It’s obvious that people are going to migrate. And people have never let fences stop them from leaving their homes if there are no opportunities there. EU policy will need to undergo a fundamental change: Europeans don’t want Africans to come to their countries, but at the same time, our agricultural and subsidies policies are destroying local markets in Africa. In the long term, it will not be possible to reconcile those circumstances.



A young man is keeping watch. He is waiting for a temporary residence permit at the Refugee Centre Papa Francisco. Unaccompanied minors are guaranteed to receive this type of permit. But some of them must endure an entire year in this centre on Sicily before their case even comes up for approval.



Dirty mattresses stacked in a school room in the city of Augusta on the Sicilian coast. Sometimes up to 100 unaccompanied children lived in the rooms of the Scuola Verde. In October 2014 the school was closed down by the authorities due to reports of the catastrophic conditions there.



Arrival at the port of Catania in eastern Sicily. The men have made it across the water, but few of them will receive asylum. In 2014 alone, 140,000 people reached the Italian coasts. Even more are waiting in Libya to board ships for the journey across the Mediterranean.

JAM: Doesn't that type of subsidies policy create a need for secured external borders in the first place?

Klepp: Of course, and precisely in order to secure one's own prosperity. The more you exploit people elsewhere, the more you want to stop them from coming to your country. The Mediterranean is turning into a deadly prosperity border. Legally speaking, the border patrol agents are obligated to save people. This is a binding humanitarian right that is regulated within international maritime law. They must assist ships that are in distress at sea. But very often border patrol agents do not fulfil this obligation. So for example, the Maltese navy delays its rescue operations or doesn't even head out to sea, as I observed while doing research in Malta in 2007.

JAM: To what extent has the creation of the EU's external borders caused people to flee across the Mediterranean?

Klepp: I was in Libya in 2006, where I encountered migrants from sub-Saharan Africa. Many of them had been living in the country for years, had jobs and apartments there. They sent money home and never intended to go to Europe. When Italy and the EU began to co-operate with Gaddafi, more migrants than before began journeying across the sea because they were afraid of ending up in detention centres in Libya that had been financed by European and Italian funds. The numbers bear this out. It was a dirty exchange: Gaddafi received five billion euros and built horrific detention centres. They were places of torture and death. Today the EU is conducting a similar exchange with President Erdogan. It really is shocking to see how quickly the EU is willing to throw its principles overboard.

JAM: How did you conduct your research?

Klepp: In Libya, black lives don't have much value. I had to protect my informants and therefore I moved mostly incognito within the circles of the Catholic Church. There, I was able to meet migrants in safe spaces. They then invited me into their communities outside of Tripoli. In Italy and Malta, I encountered a completely different type of border experience. Through my interviews there, I discovered that navy commanders were not fulfilling their obligations to provide assistance at sea. How do you deal with these serious human rights violations as a

researcher? I have yet to find a real answer to that question.

JAM: Fishing boats are also active in the Mediterranean. How do the fishermen deal with this situation?

Klepp: At that time, the Maltese sailors were in an unfortunate situation. On the one hand, the captains feel bound to fulfil their honour as seamen, which requires that you help one another at sea. But, fearing for their own existence, many of them have begun turning a blind eye when they see a refugee boat in distress. The captains have previously encountered situations in which they've had refugees on board and as a result have not been allowed to enter port. Today the situation is better.

JAM: Italy created a naval emergency response team in 2013.

Klepp: The start of the Mare Nostrum mission was a special moment. The Italians created it on their own initiative and with their own funds. Between October 2013 and October 2014, the mission saved 130,000 lives. Then Italy asked the EU for financial support for the mission. But the EU declined, claiming it did not have the funds for it. It also argued that an EU-funded mission could only operate in Italy's coastal waters.

JAM: Was it the increased border security that first turned Europe into a longed-for destination?

Klepp: Yes, because countless connections had long existed to Italy and Spain. People travelled back and forth. They went to Spain for the second olive harvest and then returned to North Africa. But suddenly the only way to get to Europe was as an illegal immigrant. The borders destroyed circular migration in the Mediterranean.

JAM: Is the EU external border a problem for Southern Europeans?

Klepp: The opposite is the case. Now migrants can be exploited even more easily. As illegals, they live in the fields during the harvest under precarious conditions and collect crops for ridiculously little money. Agriculture in particular is dependent on illegal migrants. Black labour should be much better regulated. People wouldn't come if these opportunities to work didn't exist.



Shoes, trousers and shirts are hung out to dry on the barbed wire fence of a refugee camp in Priolo Gargallo on Sicily. Many camps are facing extreme economic difficulties and can barely provide for the inhabitants.



The Hotel Aloha once provided accommodation for tourists. Later it was used to house children and teenagers who had fled from Africa and the Middle East. The shelter was shut down at the end of October 2014 as it had long been known that conditions there were abject.

Finally, the external border has an absurd filter function: now the only ones who come are young, productive men. Children, families and the elderly stay outside. This helps the Italian economy but has negative consequences for Italian society. Syrian war refugees are the exception – they come with their families!

JAM: Does this sealing of the borders help criminal human traffickers?

Klepp: The more closed a border is, the more criminal and violent the networks become. It means that the risk is too great for private smugglers who help voluntarily. In any case, it's necessary to distinguish between people who assist refugees, smugglers, and traffickers. In Libya today, the only ones active are highly organised, clandestine, criminal networks. They have no scruples about placing people onto unseaworthy vessels. These networks only came into being because there is a market for such transport.

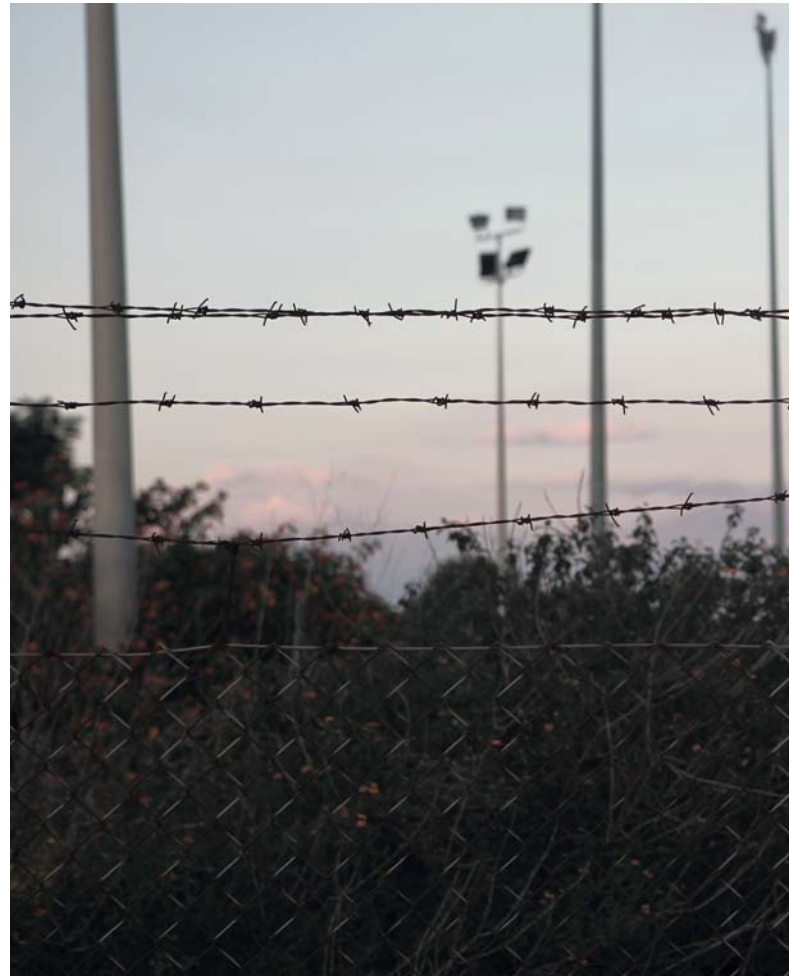
JAM: We Europeans can move around our continent freely. What is it like for migrants?

Klepp: In some cases, they are not even allowed to leave the district they live in. What is known as the residency requirement is often defined in a very restrictive way. On top of that, there is a type of unspoken racial profiling: people with dark skin are generally subjected to controls more often, particularly at airports. Border controls have by no means been removed.

JAM: At the moment you are focusing on the Pacific. Are there any positive examples from this region that could be transferred to Europe?

Klepp: I am looking at how Pacific island nations are dealing with rising sea levels. Kiribati will not be habitable for the coming generations. Due to colonialism, there are also clear borders within the Pacific. But Kiribati was the first state to formulate a comprehensive migration strategy for all of its citizens and has purchased land on Fiji. In contrast to Australians and New Zealanders, the people of Fiji are showing solidarity and do not want to see the people of Kiribati become refugees. I'm interested in what is being negotiated and what new forms of citizenship will result from this process.





Prayer mats lie in a former parking lot in the Papa Francisco refugee centre to ensure that those who have fled their homes should not be deprived of their religion in a foreign land.



Fences and floodlights: the refugee centre in Mineo in Sicily's interior can hold up to 3,000 people. In 2014, almost 4,000 people were quartered there, making it the largest refugee centre in Europe that year.



Helpers in protective white clothing: the Mare Nostrum mission began in October 2013. The Italian navy rescued about 400 people from the Mediterranean a day. Since November 2014, Frontex, the European border agency, has been leading operations, working on a decidedly smaller budget.

A PRECARIOUS BORDER REGIME

It is a long-held belief that the humanities and the sciences conduct very different types of research. But how certain is this old certainty?

TEXT FABIAN KRÄMER AND VERONIKA LIPPHARDT

What does the map of academia look like? Does it show two countries, or three, or more? Answering intuitively, and without taking much time to think about it, many people would answer: two, of course, one for the humanities and one for the sciences, and within those borders lie many large and small realms for the individual disciplines. One of the basic assumptions of modernity is that the humanities and the sciences are separated by an unbridgeable chasm and that the members of the two groups are barely able to communicate with or understand each other. However, there is a history behind this assumption, and there are, in fact, alternatives out there.

For some time now, scholars have been discussing how these “two cultures” came to develop in such different directions. According to Peter Galison, a science historian, the categorisation of the disciplines into humanities and sciences is one of many social phenomena that have been around for much less time than it at first appears. ‘In the rear-view mirror of many cars there is inscribed an optico-epistemological warning: “Objects in the Mirror Are Closer than they Appear.” So it is, I think, with many aspects of our contemporary world (...) The divide between the humanities and the sciences – in the German-speaking world between the *Geisteswissenschaften* and the *Naturwissenschaften* – is of this sort: feels ancient, is mostly very recent.’

It was not until the second half of the 19th century that the theologian and philosopher Wilhelm Dilthey reflected on the separation between the humanities and sciences, which had become increasingly entrenched during his lifetime. Using

“explaining” and “understanding”, he shaped two terms that even today are often applied to denote the respective goals of the sciences and the humanities. While scientists produce causal explanations for their research objects and discover natural laws that are responsible for these objects, humanities scholars seek to understand their research objects.

Two cultures – or should it be three after all?

In the middle of the 20th century, the British physicist and literary author Charles Percy Snow spelled this division out in more detail – and simultaneously bemoaned its existence. In 1959 he gave his famous *Rede Lecture* in Cambridge entitled ‘The Two Cultures and the Scientific Revolution’, thereby coining the term “two cultures”. From his point of view, the gulf between the traditional, literary-based culture on the one hand, and the relatively newer sciences on the other hand, was dangerous. Snow believed this division would lead to the traditionally educated British elite, who held the levers of power in their hands, to be clueless about the sciences. They would therefore be badly equipped to make decisions that would have serious consequences for the wellbeing or decline of humanity. In the age of the hydrogen bomb, this was an alarming thought.

As we can see, the catchphrase of the “two cultures” is relatively young. But, just like Dilthey’s pair of terms “explaining and understanding”, this catchphrase has had an enormous influence on our comprehension of the map of academic knowledge, despite the fact that the division of the academic world into “two cultures” is anything but self-evident. Within the relatively short time since the division between the sciences and humani-



ties was announced, the demarcation of that boundary has never been unproblematic, and the course of the border has never been stable. It was not and is not possible to clearly ascribe every discipline to one of the two sides, and some disciplines have switched sides.

It is not even clear whether there are two cultures – or rather three. In ‘The Three Cultures: Sociology between Literature and Science’, a highly regarded monograph published in 1985, the sociologist Wolf Lepenies argued that ‘one can describe the social sciences as a third culture, one in which encounters between scientific and literary orientations have been occurring since its inception.’ Revealingly, Snow also considered the variation of distinguishing between three instead of two cultures. However, to reach his goal of obtaining more funding for the sciences, it made more sense for him to taper the debate down to two cultures confronting each other wordlessly from opposite sides of a divide.

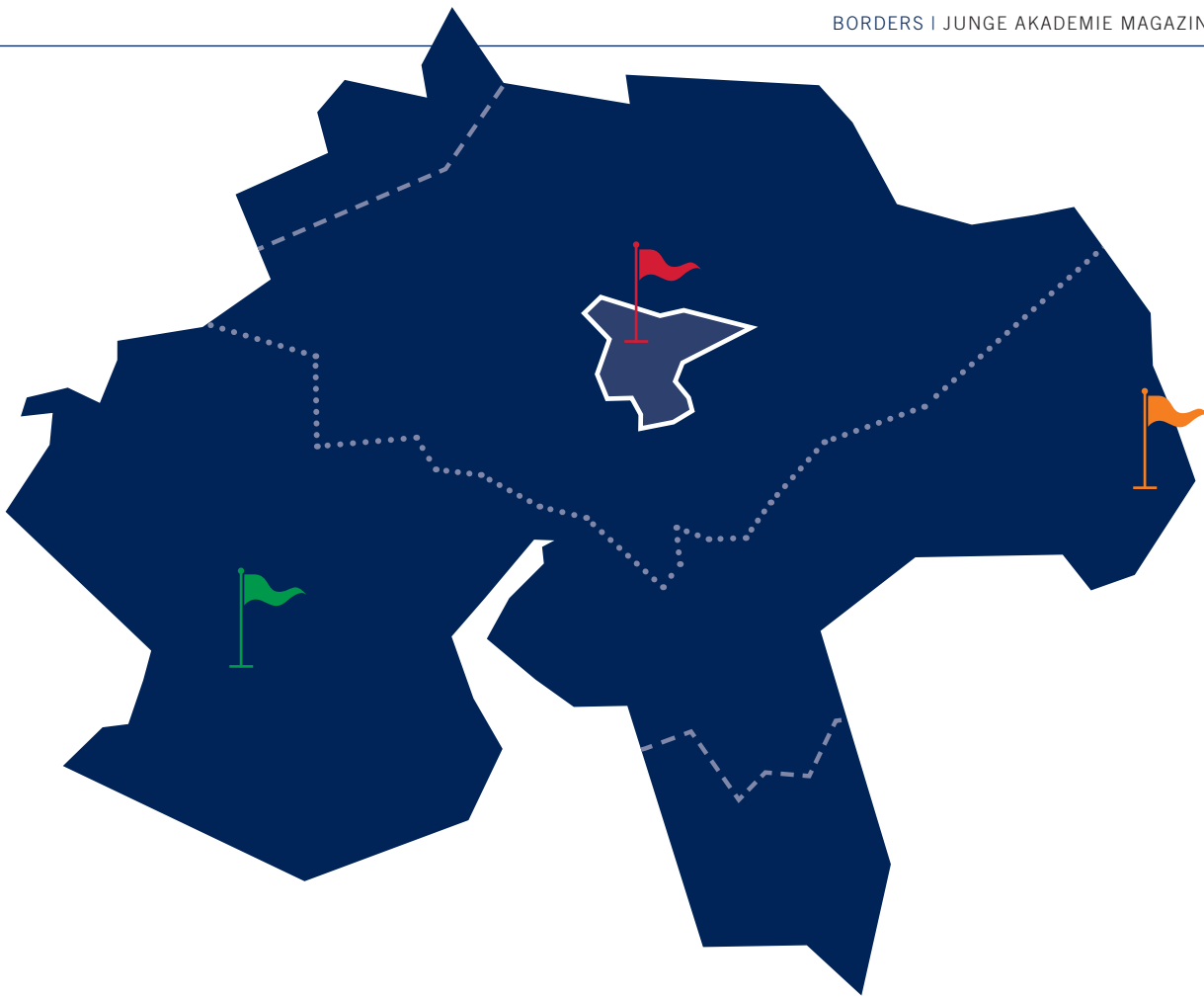
Many forms of collaboration

What is more, a discipline’s membership of one of the two or three cultures may change over time. Not all disciplines that Dilthey allocated to the humanities still belong to this category according to today’s definition. For instance Legal Studies, in the history-based form popular during Dilthey’s lifetime (known as the *Historical School of Law*), were a prime example of a humanities subject for Dilthey. Today they are usually placed with the social sciences and would, according to Lepenies’ model, belong to the “third culture”. On the other hand, the fields that are traditionally considered “scientific” did not exist in their current

form during Dilthey or Snow’s lifetimes and are considered by some to be their own culture. For example, while scientific disciplines were traditionally characterised by their clear framework of explaining nature, Technology and Computer Science have gone far beyond these explanatory methods. No small number of research fields – and sometimes entire disciplines – completely defy categorisation. Thus, fields such as Linguistics and Psychology were, and still are today, sometimes placed with the humanities and sometimes with the sciences, depending on the goals and methods of the respective project.

On the other hand, a large portion of academic rhetoric and institutionalisation exists due to what is known as interdisciplinarity, or, in other words: from the many forms of collaboration that are all included under this label. The success of interdisciplinarity is due to an effective argument for funding certain types of research and teaching approaches that drove the separation of scholarly cultures: the greater the gulf, the more worthwhile the attempts to build bridges. Occasionally the act of bridge-building is elevated to a program, as reflected in the Max-Planck-Institute for the Science of Human History, established in 2014 in Jena, at which representatives of scientific and humanities disciplines test and develop genetic and linguistic methods for researching the history of humankind.


Similarly, numerous associations and projects (using a problem-oriented approach, in didactic terms), concentrate on research objects that, much like human history, cannot be allocated clearly to one field or another and that have long been the object of study of multiple disciplines. The scholars working on this



research may or may not have managed to find a common language for these objects. As most disciplines are relatively young, in many cases there are historical predecessors that still used a common language to talk about specific objects as late as the 19th century. The idea that a synopsis of findings in Linguistics, Physical Anthropology, Archaeology and Classical Studies could advance our understanding of human history had already led to lively exchanges among representatives of those disciplines during that previous age.

The Changing Face of the Maps

These examples show that a simple numbering or counting of the supposedly distinct cultures does not lead us anywhere productive. The map of academic knowledge thus proves itself to be just as complex and changeable as a political map. New (sub-) disciplines are created, others disappear. Disciplines converge – all the way to the establishment of hybrid (sub-) disciplines, such as Physico-Theology or Natural Theology, which aims to discover relevant findings about creation for Theology through the observation of nature, a topic that had large numbers of disciples in the 17th and 18th centuries. And sometimes disciplines

move apart again. It is therefore not enough to decide whether there are two, three or more cultures. Instead, it is intriguing to discover how the concept of the “two cultures” came about and what impact it has had since then. In order to examine this, we must leave the terminological framework of historical actors behind to allow an unobstructed view of this history. It would also be useful to apply this clear-sighted gaze, distanced yet emphatic, sharpened by the history and theory of science, to today’s landscape of scholarship, with its bridges and boundaries. 

Fabian Krämer teaches History of Science at the Ludwig-Maximilians-Universität München and became a member of the Junge Akademie in 2015. He is the speaker of the Research Group ‘Two Cultures’, which was established during the Junge Akademie’s Autumn Conference 2015 in order to discuss the questions raised in this contribution.

Veronika Lipphardt teaches Science and Technology Studies at the University College of the University of Freiburg. She was a member of the Junge Akademie from 2010 to 2015 and is also involved in the Research Group ‘Two Cultures’.

DEFINING A NEW LINGUISTIC SPACE

Interdisciplinarity requires more than just collaboration across research fields

TEXT CHRISTIAN STEIN

Whenever talk turns to innovation, creativity, thinking in new directions and expanding horizons, it is usually not long before the word interdisciplinarity makes an appearance. Especially when it comes to discussing current questions about society, how to shape our future, and finding opportunities, there is an emphasis on bridging gaps between disciplines – innovation is interdisciplinary. It almost sounds like it is impossible for progress to occur within an individual discipline. Oftentimes no one bothers to define what exactly they mean by “interdisciplinarity”, and it is even rarer for anyone to talk about how it is actually supposed to work. Really, all that interdisciplinarity means is that different disciplines will work together and communicate with each other in some way or another.

And yet, it is of great importance to know which and how many disciplines are actually involved in the respective interdisciplinary project, which methods and perspectives are going to be layered or where differences exist between them, which motivations are driving collaboration or which experiences the actors bring to the project. Interdisciplinarity, in all its variations, is by no means a guarantee for innovation: it is also often a big problem that leads large numbers of ambitious projects and efforts to fail.

Specific Differences, Complex Connections

From a linguistic perspective, the success or failure of these projects can be seen in the communication among the actors involved. It is possible to identify problems and strengths early in the development of interdisciplinary team communication and to introduce compensatory measures if necessary. But how does everyday intra-disciplinary and inter-disciplinary communication work, and how do the two differ from each other?

The linguist and structuralist Roman Jakobson built on Karl Bühler’s three-part linguistic model and turned it into a communication model. He distinguished between six functions: the *sender*, the *receiver*, the *channel*, the *message*, the *context* and the *code*. According to Jakobson’s model, all of these functions typically appear in communication events:

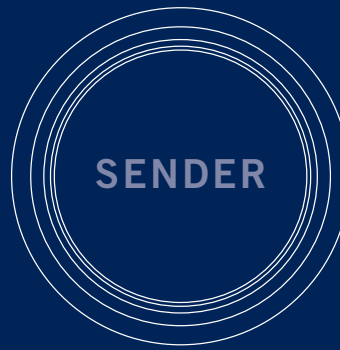
Through his expressive function (such as intonation or miming) the *sender* includes his emotive stance towards what he is saying and thereby consciously or unconsciously expresses something about himself.

The *receiver* of the message may take a prompt or instruction from it and react correspondingly.

The *channel* that enables a connection between the sender and the receiver, and via which the message is transmitted (such as acoustics during a conversation or technical communication media), can be opened or closed and is subject to constant review by the communicators to determine whether the communication is working.

The *message* that is sent by the sender has a specific formal design, linguisticity, connotation, and in some circumstances also a poetic function that goes beyond the pure transmission of content.

The *context* of the message, in the sense of the pre- and post-communicated messages as well as in the sense of the world in which the message is embedded or the references which it produces.



Finally, the code, in the sense of a speech *code* that describes the language used and also covers dialects, sociolects and professional jargon.

The last function, the code, plays a special role particularly within interdisciplinary dialogue. When communication is successful, it is assumed that the communicators are employing the same code in order to understand each other adequately. Thus, an engineer is able to understand another engineer well because they both have access to the same jargon-based code.

Over the course of their development and differentiation, the academic disciplines have continually optimised their communication to communicate specific differences as well as complex contexts succinctly and precisely. They have created their own terminology – a connected and more or less consistent system of professional languages.

Jargon as a sign of interpretational sovereignty

In this context, this language system not only serves to enable communication, but also reflects the essential differences relevant to the respective disciplinary perspective. What requires differentiation? Which structures are typical or atypical? How can the research object be classified? Which values describe it adequately? All of these disciplinary observations take root within the terminology of the discipline, so that this terminology comes to represent far more than just a means of communication: it represents the knowledge and the essence of the discipline itself.

Thus the use of specific terms is also always a way of marking a specific way of seeing. And this perspective in turn manifests its claim to interpretational sovereignty by using the terminology ascribed to it.

What is normally an advantage within an intradisciplinary discourse can turn into a problem during interdisciplinary discourse, because terminology turns into an obstacle in situations in which it is not shared by all the participating parties. When the code of the communicators is not identical, this quickly results in a series of misunderstandings based on the fact that the disciplines have developed completely different meanings for specific words.

The various disciplines draw on common usage while building up their own terminology, then either particularise or change the meaning of certain words. Thus the word “system” that exists in the common language is understandable and applicable for everyone, but it simultaneously exists within different disciplines as a term with highly specific meanings. In biology, the term system is taken to mean something very different than in computer science or sociology. When these disciplines conduct an interdisciplinary discussion with each other about systems, the basic concepts on which the discussion is based are usually assumed instead of being examined together by all participants. This often results in long debates that arise out of misunderstandings that are never acknowledged or not recognised until very late in the game.

Admittedly, the results of these debates can certainly be interesting – even if they are the equivalent to an accident in communications. This form of misunderstanding is typical for interdisciplinary communication and most participants will have first-hand experience of it. Participants can take steps to prevent these kinds of misunderstandings by working with definitions of terms, disclosing supposedly self-evident fundamental assumptions, and continually reconfirming the meaning of a term within the respective discipline.

CONTEXT

MESSAGE

CHANNEL

CODE

RECIPIENT

Another form of interdisciplinary miscommunication is far more serious and often much less obvious. It often appears similar to the misunderstanding described above but represents a much deeper conflict. Terminology can also be deployed to assert territorial claims: professional jargon denotes interpretational sovereignty. The use of terms that your interlocutor is not familiar with signals the desire to dominate a field or an aspect of a discipline.

This has dramatic consequences for interdisciplinary communication. This kind of exclusion leads to participants covertly splitting the research object up into sections for which individual disciplines claim to possess interpretational sovereignty, and which they then mark with their corresponding terminology.

Expression of individual identity

Splitting up the research object into individual turfs per discipline no longer corresponds to the communally formulated claim to interdisciplinarity. Existing disciplinary boundaries are reinforced rather than overcome. The disciplines become focused on delineating their boundaries or enter into a type of mutual service relationship. While the allocation of turfs can result in greater speed at the operational level, it obstructs the attempt to tap innovation potential. In cases like these, we are no longer dealing with interdisciplinarity, but rather multidisciplinary. Collaboration is reduced to a few points of intersection and handover points.

The uncertainty that characterises the interaction between disciplines and the consciousness of one's respective own disciplinary identity thus often lead to misunderstandings and covert disciplinary demarcation. But it doesn't have to be this way. One way to avoid problems with interdisciplinary communication is to establish a common linguistic territory that is not linked to

any existing discipline, but that represents an expansion for all participants. The goal is to develop a common project language that bridges the differences between the participating disciplines' jargon and that is perceived as an enrichment rather than a threat. A proven method is to select a term that occurs in all of the disciplines, or in none of them. This term should be defined by all participants together, should have no claim to fundamental validity, and should be relevant and specific to the project at hand.

Such a definition forms the foundation for a shared linguistic territory. It is the first shared product of the project in the linguistic space, a linguistic region that is explored and conquered together. In this space, participants can develop a functional and functioning terminology that no longer needs to contend with issues of general validity or interpretational sovereignty, but enables precise communication instead.

Jakobson's six communication functions clarify that communication consists of far more than the simple transfer of information. It enables the creation of linkages and boundaries as well as the expression of an individual identity. Innovation is always accompanied by the calling into question of systems and identity concepts – which makes communication more difficult. Interdisciplinarity is a wonderful way to find new opportunities. However, it cannot just happen on its own, but requires successful, open, and reflected communication that regards code differences not as obstacles, but as a chance to discover something new through dialogue.

Christian Stein has been a member of the Junge Akademie since 2015. He studied literature, linguistics and computer science and conducts research within the Excellence Cluster 'Bild Wissen Gestaltung' at Humboldt-University Berlin.

ACIDIC

Picrophilus torridus – pH 0

The archaeon lives in volcanic springs of sulphuric acid at a temperature of 60 °C. Unusual membrane lipids protect the cells from the extremely acidic pH value of the sulphur springs.

Helicobacter pylori – pH 1-2

The pathogen that causes gastric ulcers is able to survive in gastric acid because it produces ammonia that neutralises the muriatic acid in the stomach.

Battery – pH 1

Lead accumulators like the ones used in cars possess a pH value of ca. 1.

Cola – pH 3

The phosphoric acid concentration in cola beverages is equal to 6mM. This, together with citric acid, gives cola such an acidic pH value.

Wine – pH 4

Tartaric, malic, and citric acid are the non-volatile acids in wine. Tartaric acid sometimes crystallises as “wine-stone”.

Blood – pH 7,4

Blood is an incredibly special juice and, with a pH of 7.4, almost neutral. The pH value of blood is maintained by dissolved carbon dioxide.



AT THE EDGE OF LIFE: EXTREMOPHILE MICRO-ORGANISMS

INFOGRAPHIC TOBIAS ERB

Which environmental conditions make life possible? Does life have physical boundaries? A group of micro-organisms, the extremophiles, show how resilient life is and that there are almost no conditions to which life cannot adapt. Extremophiles live in ice-cold environments, in boiling acid, and under extremely high pressure.

RADIATION



X-ray image – 1 mGy

The radiation dose during X-raying is equal to about 1 mGy, during computed tomographies about 10 mGy.

Limit for Humans – 5 Gy

When it comes to humans, the lethal dose of energy-rich radiation is equal to 5 Gy. During the explosion of the Hiroshima bomb, this dosage was achieved within a radius of 1 km below the hypocentre.

Hiroshima Atomic Bomb – 100 Gy

The radiation dose of the explosion in the hypocentre was estimated to be around 100 Gy.

Deinococcus radiodurans – 5.000 Gy

This bacterium is capable of surviving radiation doses equivalent to 50 times the radiation of the Hiroshima bomb. Its secret to survival lies in its extremely efficient repair enzymes that remove radiation damage within the bacterium's DNA.



Car tire – 2,8 bar

Human Limit – 5 bar

Underwater diving with compressed air becomes dangerous for humans around 5 bar. At this level, oxygen poisoning becomes likely.

Steam locomotive – 16 bar

The GDR locomotives of the 52.80 series worked with an excess boiler pressure of 16 bar and were in regular use until 1990.

Diving World Records – 33 bar

In 2014, after years of preparation, Ahmed Gabr achieved a depth of 333 m. This required him to use a special mixture of helium and low concentrations of oxygen.

Military Submarines – 70 bar

German naval submarines of the 212 A class such as the U33 “Gotha” possess an (unconfirmed) destruction level of 70 bar.

PRES-SURE

Colwellia sp. MT-41 – 1.035 bar

This deep sea bacterium was isolated at a depth of 10,000 m and requires at least 380 bar for cultivation. At 1,035 bar and 2 °C, it divides every 33 seconds. Due to a large number of unsaturated fatty acids in its membrane, Colwellia resists the hydrostatic pressure that restricts the fluidity of the membrane.

ALKALINE

Soap – pH 9

Soap, produced as early as antiquity by mixing plant ashes and oils, possesses an alkaline pH value of 9–10.

Spirulina – pH 10

Spirulina “algae”, which actually belong to the category of cyanobacteria, are a hot topic due to their nutritional qualities. They are the dominant micro-organisms in soda lakes. These soda lakes typically have a pH value between 9 and 11.

**Bleaching agents – pH 12**

Household bleaching agents that consist of sodium hypochlorite have a pH value of approximately 12. They have a typical “pool” smell.

Serpentinomonas – pH 12,5

The B1 strain, only discovered last year, still grows at a pH value of 12.5. Alkaliphile bacteria such as this are of interest to the detergent industry. These bacteria possess enzymes (such as for dissolving grease), that still function in soapsuds.

COLD

Psychrobacter arcticus – ca. -15 °C

The strain 273-4 was isolated out of 20-30,000 year old permafrost soil, where it still maintains an active metabolism at -15 °C. Strain 273-4 achieves this mainly through extremely flexible proteins and intra-cellular cryoprotectants that prevent the freezing of the cell interior much in the same way as anti-freezing compounds.

Ice water – 0 °C

Under standard conditions, water freezes at 0 °C.

Human Body Temperature – 37 °C

Our body temperature is 37 °C. This temperature is maintained through muscle tremors and sweating. The most severe hypothermia that anyone survived was 14 °C. The upper limit of survival is about 44 °C. Beyond this temperature, the body's proteins stop functioning.

Boiling water – 100 °C

Under standard conditions, water begins to boil at 100 °C

Methanopyrus kandleri – 122 °C

This archaeon lives in the walls of “black smokers”, hot volcanic springs that lie 2,000 m beneath the ocean's surface. It lives off of oxyhydrogen reactions during which hydrogen oxidises with oxygen in order to generate energy.



POISONOUS

Halomonas GFAJ-1 – Arsenic acid

The bacterium survives in arsenic acidic water at concentrations of up to 17 g per litre. Its survival is due to, among other things, a special transport protein that prevents the absorption of arsenic acid into the cell interior.

Deadly Arsenic Dose for Humans – 3 g

For rats, the average lethal dosage is equivalent to about 20 mg (48 mg/kg body weight), which corresponds to about 3 g for humans. Arsenic acid is already carcinogenic in smaller doses. Organic derivatives of arsenic acid were long used as antibiotics to treat infectious diseases and are still permitted for specific treatments even today.

Fermenting yeasts – 17 % alcohol

Alcohol-producing yeast strains can survive in water with an alcohol content of up to 17%.

Human Limit for Alcohol – 0.4 % alcohol

Alcohol poisoning begins to be life-threatening at about 4 per mille. At that point, respiratory arrest and coma are imminent.

Alcanivorax borkumensis – pure petroleum

This bacterium is extremely important for breaking down petroleum. During the Deep Horizon catastrophe in the Gulf of Mexico in 2010, this bacterium multiplied faster than any others. It forms bio-surfactants in order to reduce the surface tension between petroleum and water.



HEAT

Tobias Erb has been a member of the Junge Akademie since 2013 and conducts research at the Max-Planck-Institute for Terrestrial Microbiology and the Center for Synthetic Microbiology (SYNMIKRO) in Marburg.

NEWS FROM THE WORLD OF MOLECULES

The physical chemist Hans Jakob Wörner investigates the movements of electrons. His experiments have repeatedly pushed the boundaries of his research field. An encounter

TEXT + PHOTO DIRK LIESEMER

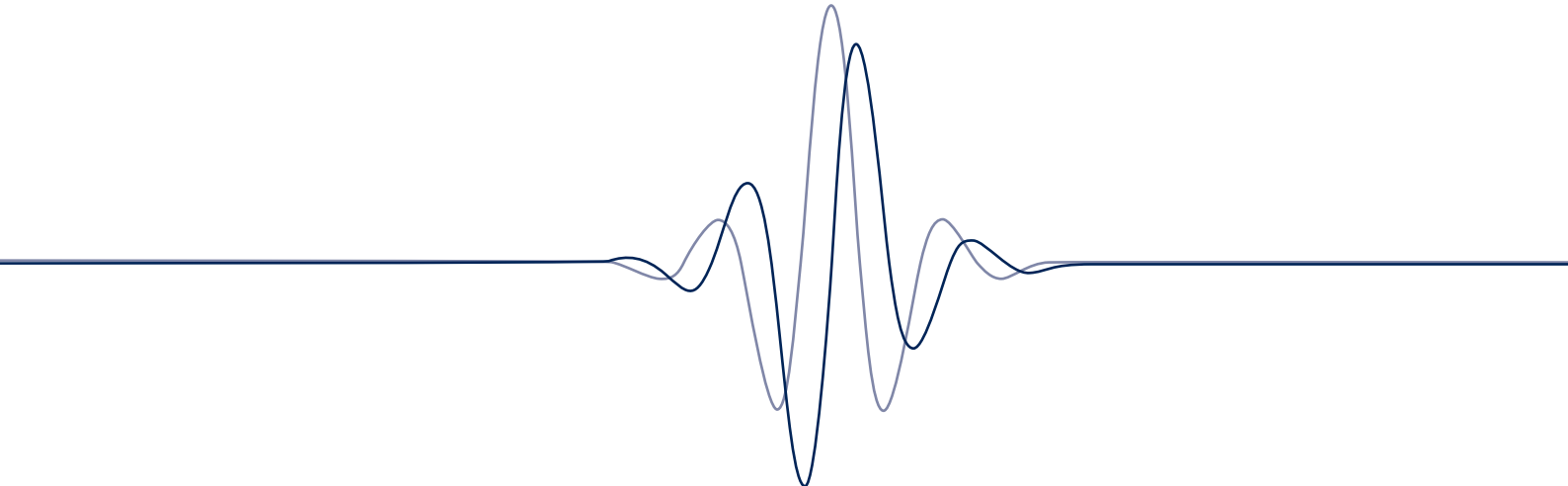


Eyes on the horizon: Hans Jakob Wörner out for a walk

Hans Jakob Wörner pauses only for a brief moment during our walk. ‘The first time I ever heard of attoseconds was during a lecture on kinetics,’ he tells me. That was in the summer of 2001, just after he had moved from the École Polytechnique Fédérale de Lausanne to the Swiss Federal Institute of Technology (ETH) in Zurich. ‘That year was the first time that attosecond pulses had ever been produced,’ he notes. An attosecond is a fraction of a moment so small as to be barely imaginable, a billionth of a billionth of a second. Attoseconds comprise a border area of today’s quantum research and so far are still the shortest time span accessible within experiments.

To illustrate the concept, Hans Jakob Wörner provides a comparison: ‘Trying to express a second in attoseconds is like dividing the age of the universe into seconds.’ And he immediately follows up with a second comparison: just as humans perceive minutes and seconds, so do electrons move through the time spaces of attoseconds. In a way, our perception is reflected in the world of atoms, molecules and electrons.

It is a late autumn day in November and we’re walking across the campus of the ETH by the Höggerberg. The path climbs above Zurich, but the city lies on the other side of the mountain peak. Every Friday, Wörner goes for runs here with his doctoral students. Five kilometres, uphill first and along the edge of the forest.



‘How does the movement of electrons influence the chemical characteristics of molecules?’

Wörner was appointed Assistant Professor for Physical Chemistry at the ETH five years ago, and Associate Professor just three years later. He is only 34 years old and was lucky enough to witness the uncharted territory of attosecond research turn into an established research field with global recognition. As abstract as it may seem, he is able to summarise his goals in a few words: ‘I want to know how electrons move and how their movements influence the chemical characteristics of molecules.’ One day he would like to be able to predict how electrons will move during a chemical reaction or how molecules can be optimised for a specific purpose, such as for absorbing sunlight.

His findings have already contributed to more exact knowledge of the movements that occur within molecules, how the movements of electrons and the atom cores interact with each other, and how these processes have to be described. Last summer, he was awarded the Carus Medal by the Leopoldina for his experimental research. ‘It was a very great honour,’ he says, ‘and a good indication that I’m heading in the right direction.’ But he also senses that the expectations regarding his work are rising.

If you ask Hans Jakob Wörner to explain his research in a few simple words, as if he were talking to his parents or close friends,

he just laughs. He tells me that kind of mental trick would not help him, as his family and friends all have a pretty in-depth understanding of his work. When talking to a layperson, Wörner first brings up the topic of “Schrödinger’s Cat”: in the 1930s, the physicist Erwin Schrödinger formulated a thought experiment to illustrate why our conceptualisations cannot be applied to the world of atoms and molecules.

Imagine a locked cage, with nothing inside but a cat and a vial of poison. Then imagine an atom. When the atom dissolves, the action triggers a hammer that breaks the vial. This causes the poison to spread out and kill the cat. According to classical physics – and our experience of daily life – there are two possibilities: if the atom remains stable, the cat will continue to live unharmed. But if it splits, the animal dies.

This type of either-or logic does not apply in quantum mechanics. There, simultaneity reigns, or, in other words: superposition states exist. This means that the cat can be dead and alive simultaneously. It is only once the cage is opened – i.e. a measurement is conducted – that the scientist can determine whether the cat is alive or dead. Only one state can be measured at a given point in time. In order to observe electron movements, scientists must first create this type of superposition state. No other state is time-dependent, including the state in which an atom has the least energy (also known as the basic state) – which completely contradicts the classic concept of electrons travelling around the core of the atom. Superpositions of electron states can change within attoseconds, which makes it incredibly difficult to measure them.

In order to investigate the movements of electrons, Hans Jakob Wörner began building three laboratories in 2011: the first contains multiple laser systems; the second is used to measure molecules in gaseous states; and the third is used to measure molecules in liquid states. Wörner receives generous support for his fundamental research on attosecond spectroscopy, including funding from the university, the Swiss National Science Foundation, and two million euro from the European Research Council.


As early as the summer of 2012, just a few months after his appointment, Wörner and his doctoral students had a first eureka moment in the laser laboratory. 'We were actually trying to align a molecule,' he explains, 'but suddenly we noticed a very fast and very large oscillation in the signal. After a few minutes, we understood: "Ah, that is the real electron movement that we can trigger and measure within this molecule."' That was a very important moment.'

The measurements are conducted according to a clear experiment set-up: first, a molecule is selected, then the laser pulsation is divided. The first pulse creates a superposition state and thereby stimulates electron movement within the molecule. The second pulse is guided by a series of mirrors and finally focused on the molecule. This produces such strong forces that

the electrons leave the molecule, accelerate within space, and then return to the molecule. As a result, an attosecond pulse is emitted from which it is possible to measure the distribution of the electrons within the molecule at that point in time. 'The temporal delay between the two laser pulses shows us the changes to the electronic structure of the molecule,' Wörner explains. The images that are created can be strung together like stills from a film.

'We managed to track the movement of an electron hole'

Hans Jakob Wörner experienced the second breakthrough last year, once again in the laser laboratory. 'We managed to track the movement of an electron hole.' As in the previous experiment, mirrors were used to guide a laser beam and to bundle the beam and focus it onto a single molecule, so that for a short time an electron was separated from the molecule and then returned to it. The scientists were then able to locate and briefly observe the empty space that resulted from this action for a few moments. They discovered that the empty space did not remain at the spot from which the electron had been removed, but that it moved instead to the other end of the molecule within a few hundred attoseconds.




On our way to the campus at the Höggerberg, Hans Jakob Wörner stops at a fork in the road. When out running with his doctoral students, he usually takes the path on the left into the woods, but today we take the path on the right. This path is a gentle descent from the mountain, leading between fields into the direction of Höngg. The campus remains in sight, including the buildings of the civil engineers and architects, the chemists and physicists.

‘My colleagues in chemistry often ask me what the point of my research is.’

Wörner shoots a glance in the direction of the department of Chemistry and Applied Bio-sciences. He tells me that some of his colleagues in chemistry still wonder why he is not based in the Physics department. ‘They often ask me what the point of my research is,’ he says, amused. He finds their questions and criticism ‘interesting and funny’. Sometimes he tells them about his newest findings. In 2015 alone, his group presented three important results: they were the first to ever track the movement of an electron hole, and were able to observe this movement during chemical reactions. Furthermore, they managed to measure the movement of electrons in liquids.

So far, Wörner has rarely asked himself what worlds he might find on the other side of attoseconds, in even shorter spans of time. He knows there is still much work to be done on fundamental research questions within his labs. The pioneer spirit is still palpable, he tells me. Some of the experiments he is working on have never been conducted by anyone before. ‘Just think: No one has ever seen this! No one has ever tried it!’ He finds attosecond measurements in the liquid phase to be particularly fascinating. ‘No other lab in the world today can conduct these measurements, and yet almost all chemical and biological processes occur in the liquid phase!’

Every experiment moves the boundaries of attosecond research further out, increasing the territory explored and the knowledge accrued. Wörner is certain that enormous terra incognita still remains to be investigated. For example, why are certain photochemical processes so efficient? And why do the molecular building blocks of DNA not break down immediately in ultraviolet light as they do in other systems? Wörner presumes that the reasons are linked to the process of evolution. But what role do electron movements play within these characteristics? 

Gudu @mggudu

به یاد همه آیلان‌ها
#آیلان_کوردی
#Aylan_Kurdi

Übersetzung anzeigen

3

sasafathi osman @sasafath09

"@AlexBucciatti: Media & #Aylan_Kurdi from #Kobane #Syria #آیلان_کوردی من #کوبانی #سوریا الاعلام"

13.02 - 5. Sep. 2015

Louise Ridley @LouiseRidley

Another powerful image - one of the best I've seen #KiyiyaVuranInsanlik

Übersetzung anzeigen

2 2

Neftali Noé Yagua @neftaliyagua

En las orillas de Trabzon parecías yacer dormido, Era tu inocencia jugando con la arena. #KiyiyaVuranInsanlik

Übersetzung anzeigen

17.25 - 15. Nov. 2015

Joost Gaudochik @godoy_music

Humanity has forever been marked. Not a happy tattoo, but a real one. #KiyiyaVuranInsanlik

Übersetzung anzeigen

06.57 - 15. Sep. 2015

Julia Avery @julliamavery

A demonstration this morning before the arrival of Fatima Kurdi. #KiyiyaVuranInsanlik #mubxl

Übersetzung anzeigen

02.47 - 14. Sep. 2015

ana (sem carolina) @anacarostah

where's our humanity? #KiyiyaVuranInsanlik

Übersetzung anzeigen

1 1

#Opinionmaker World @OMI_world

#Tragic pics that opened the world's eyes. Don't close your eyes! Take action! #KiyiyaVuranInsanlik #SaveTheMigrants

Übersetzung anzeigen

Badruddin Kodilpet @Badru_besagotta

#humanitydied #aylan_kurdi #we #really #sorry . #arab_world please #open up ur #eyes for #humanity #sake.

Übersetzung anzeigen

"IT IS NOT ENOUGH FOR THE WORLD TO BE SHOCKED BY THESE IMAGES. SHOCK MUST BE MATCHED BY ACTION."
ANTHONY LAKE

2

‘STILL THE SAME!!’

In September 2015, photos of the drowned refugee child Aylan Kurdi went round the world. How do the boundaries between journalistic image ethics and individual decisions become blurred?

TEXT EVELYN RUNGE

I. A new photographic icon?

The *Bild-Zeitung* did it. The *Wall Street Journal* did it, *The Washington Post*, and *The Guardian* too. They published the photo of a child in a red T-shirt, blue trousers, shoes with Velcro fasteners. The child in the photo is dead.

The photo that was published in newspapers and magazines on 3 September 2015 and the following days shows the three-year-old Aylan (also: Ailan, Alan) Kurdi. He drowned, as did his five-year-old brother Galep, his mother Rehanna, and nine other people. They were trying to flee from Turkey to Greece by boat. The boat capsized and Aylan's father Abdullah was not able to save his sons or his wife. He is the only one in his family to survive.

What happened next was that Aylan's photo was published on a major scale, in journalistic media, on- and offline, on blogs, in social media. Within one day, media outlets around the world were reporting the story, especially because the photo was being disseminated via Twitter – and the Top Twitter Trends are increasingly influencing daily reporting in journalistic media. On 2 September 2015, the most frequently used hashtag around the world was: #KiyiyaVuranInsanlik – “humanity washed ashore”, in reference to the photos of Aylan Kurdi.

There were multiple angles: Aylan's corpse from various perspectives. Aylan on the beach with an officer of the Turkish police walking towards him. Aylan in the arms of the police officer. The police officer, with the dead child in his arms, the officer's face turned slightly to the side – with image captions interpreting

this to mean the man almost could not bear having to recover the child's corpse from the beach. Many newspapers chose this option for their title pages. The photos were taken by the photographer Nilüfer Demir for the Turkish news agency DHA.

Two days later: reporters travelled to the funeral of the two boys and their mother in their home town of Kobane in Syria. Their father remained in the region; he refuses to go to Europe by himself or to Canada to be with relatives. He is still of interest to journalists: in an “alternative Christmas message” of the British broadcaster Channel 4, he asked the world to treat Syrian refugees with sympathy and to open their doors to them.

II. How should we talk about photography?

The publication of Aylan's photo and the story of his family unleashed a debate: is it permissible and/or should photographs like this be used – or even taken? Where do the boundaries lie regarding what the media present – and regarding the morality of what is being presented? And vice versa: are we limiting our perception – and our potential political reaction – when photos showing people in emergencies or dead bodies are not published? These questions seem reflexive: they repeatedly arise in this or similar forms after the publication of emotionally disturbing photographs. The same is true for the publication of articles by editors or the heads of image departments in which the authors describe why they decided for or against the publication of a certain image.

Which is what happened with Aylan Kurdi's picture. One of the arguments – both for and against the publication of the photo –





stated: because the photograph is already known through social networks. And perhaps that is the most important argument nowadays, because it is almost impossible to scrutinize photo journalism in isolation. This situation points to the current transfer of roles and responsibilities between journalists and recipients, and to the dilemma of journalistic actors: they cannot ignore social media, but should the selection of topics and reporting primarily orient itself towards trends in social media? Nilüfer Demir, who photographed Aylan's corpse for the Turkish news agency DHA, stated that she saw it as her journalistic obligation to photograph Aylan's dead body – in the hope that this tragedy would receive attention. The police officer Mehmet Ciplak who retrieved Aylan's body did not hear about the photo until later. When he discovered that the child was dead, 'something broke inside' himself, he said.

Demir has been photographing migrants and refugees in the Bodrum region, 'their deaths, their drama', for 13 years. Aylan's photo is by no means the first of a child's corpse that editorial staff have had access to – many have come before. Almost on a daily basis, the offerings of international photo agencies include images of corpses floating in water, of children, women, men, with swim vests and without, in the arms of or holding the hands of helpers pulling them to shore.

But Aylan's photo evokes associations with icons in photographic history: commentators compared it to Nick Ut's image of fleeing children in Vietnam (1972) or Kevin Carter's photo of a

child in Sudan, squatting on the ground, bent over by hunger, with a vulture perched behind him (1993). Both photographers were awarded the Pulitzer Prize for their images.

III. The memefication of Aylan Kurdi

Neftalí Noé Yagua did it. Evcenist_1503 did it, and Joost Gaudœchik too. They distributed Aylan's image via Twitter, namely the version in which Aylan is lying on his stomach on the sand, which was not used by many editorial teams; in the form of drawings, watercolours or comic-book style pictures that closely resembled the original photo – variations in which angels rise from Aylan's body or in which the sea parts before him. In the image posted by Yagua, a small boy in a red T-shirt and blue trousers is seen, alive, playing on the beach. He has a shovel and a bucket and is building a house out of sand, while next to him lies a sand figure in which the viewer recognises the dead Aylan Kurdi. Twitter user Evcenist_1503 posted a drawing of a bird's eye view of the beach: sunbathers are reading on their smartphones and tablets, not paying any attention to each other – or to the dead boy on the beach. Above the boy's body float unhappy emoticons and thumbs-up signs. Joost Gaudœchik posted a photo that he claimed was authentic: above the hashtag Kiyiya Vuran Insanlik, the silhouette of a dead child is seen in the form of a tattoo on a human body.

IV. The sharing of photos crosses boundaries *per se*

Users created their own versions of the image: the dead boy on the round table of international organisations; the living boy



in a soft bed in a kid's room; the little body with wings sprouting from its back. Aylan has become a meme, an imitated or mimetic variation of a cultural phenomenon. With many memes, it is not clear who the creator is – the same is true of the Aylan memes. Barely any of the contributions on the topic of this phenomenon addressed the issue of whether the sharing of this or other images represents a violation of boundaries: for the most part, this ethical question is left mostly to the journalistic media to reflect upon.

In the online magazine Junkee.com, Australian author Chad Parkhill has found a fitting title for these variations of the image and their distribution: 'The Memefication of Aylan Kurdi, and the Power and Ethics of Sharing Photos'. This title could serve as a starting point for a more in-depth discussion of what is happening here. The sharing of photos is a form of boundary transgression in several ways: the constant crossing of boundaries is a sign of the immateriality of digital photos. The images are no longer bound to a carrier such as film rolls or negatives, photo cards or the paper of news publications and books. They can be viewed everywhere and at any time as long as the recipient has access to digital devices.

Digital photos are changed: viral phenomena such as memes can be understood as visual commentary; authorship is unimportant in this context.

The boundaries between institutional ethics – such as journalis-

tic ethics – and individual ethics – the decision of the individual about what he or she wants to see – are moving, blurring, or dissolving entirely. At the same time, individual ethical decisions are shared and communicated: in a comment to Parkhill's contribution, the user 'G Downey' wrote that he had called on his Facebook friends to no longer share Aylan Kurdi's photo or any other photos with similar content unless they were politically active and/or active in moral causes by donating time, money and their involvement.

Due to the above reasons, the question of whether the publication of Aylan's photo is a violation of journalistic boundaries does not go far enough. And concerning photography as a medium: it is asking too much of photography – or to put it more bluntly – to ask that a single photo change the world. One of the memes addresses this: a series of three drawings, signed by Dev Sarma, that show the starving, nameless child in Sudan in 1993, then Aylan Kurdi's corpse in 2015, and, in the third image, the children meeting each other in heaven (<https://path.com/moment/Pr9NY>).

The Sudanese child asks: 'Still the same?'

And Aylan answers: 'Still the same!!'

Evelyn Runge has been a member of the Junge Akademie since 2011. She is a Fellow of the Martin Buber Society at the Hebrew University of Jerusalem, Israel, where she is conducting research on photo journalism and ethics, among other topics.

IN PRAISE OF THE DEADLINE

For a long time, our author viewed deadlines only as a necessary evil. But now he has taken the time to think about why deadlines exist and has come to see that they have surprising advantages

TEXT CASPAR BATTEGAY



You lay so far back in November, practically in the new year. Seemingly endless distances remained to be covered until I'd get anywhere close to you. I had said yes with a light heart. There was the vanity of being asked to contribute a piece. Pride that my work is so in demand. The fact that actual work was required was something I'd pushed to the farthest reaches of my mind. You were still so far away and therefore of no consequence to me. And now you're suddenly here and demanding your share. Innocently I had indebted myself – and now I had to pay.

Dear deadline, I know that it wouldn't work without you. You are the necessary time limit that every project, every text, every thought and every experiment must end with, perhaps come to a result, but certainly obtain a shape. But do you always have to be in such a hurry? Couldn't you take a little detour just this once? I'm a little down at the moment and don't feel very inspired. And anyway, I still need to pick up my jacket from the dry cleaners and put fresh sheets on the beds. And this introduction to relativity theory has been lying around unread for so long. Couldn't I postpone you for just a little bit? Just three days?

Everyone who works in academia is familiar with the pressure to submit work. Aside from the university's set dates for classes and meetings, it's up to you to structure the otherwise amorphous time dedicated to research. The name you were given, deadline, is a martial one. Originally the English term possibly referred to the line around a military prison that prisoners were not allowed to cross on pain of being shot. Vestiges of that violence can still be felt in the term, even if only in the metaphorical sense. When you miss a deadline, you obviously don't die physically, but then you don't get to participate in the Call for Papers or perhaps you're dropped from the planned publication. When you take the equally martial English saying 'publish or perish' into consideration, then missing a deadline is a type of professional death.

While I was at university I had a fellow student who always struggled greatly to hand his written work in on time. He had good ideas and clearly grasped the questions that it was necessary to address with regard to the material, but he rarely managed to achieve a formally valid conclusion. A kind-hearted lecturer managed to get this student to make a personal promise to submit two pages per week. With these individual deadlines, my colleague did eventually complete his studies (though exceeding the normal number of semesters by several years). When I began teaching university classes, I often found myself reminded of this anecdote. For life is short and research takes a long time, which means that you constantly have to limit and delineate your work, in terms of both content and time. But organising your time is obviously difficult for many people. You must first learn how to manage time, and that's where the deadline turns out to be useful. However, dear deadline, it is precisely the metaphorical quality of your name that makes you weak. As with every boundary, your power depends on how much symbolic force you are able to muster. Missing one's graduation may function as a strong threat, just as the deadline for job applications can be very effective in many situations. But everyone who has ever edited a volume of collected essays on a specific topic or research question, for example, knows how weak you are. As you approach, the apologetic emails start to pour in. And almost every one of us has written such an email at one point, asking for more time. Yes, it's true – many deadlines are missed without grave consequences. And yet, in these cases a guilty conscience or feeling of slight pressure usually still remain.

There is an old myth in which the genius – such as an author or composer, but also a physicist or biologist – is struck by a sudden stroke of genius and, as if possessed by some inner force, begins to fill entire notebooks with ideas. According to this concept, that's how Einstein came up with his $E=mc^2$ formula, during a walk to the laundromat. But what's often forgotten is that in reality, Einstein also had to write a paper that was due on a certain date. That the famous physicist stood in his laboratory or sat at his desk and worked on a daily basis – *whether or not he just happened to have an idea* – is rarely taken into consideration. Authors, humanities scholars and social scientists rarely wait for spontaneous ideas. One reads, discusses, compares, notes, drafts, deletes, thinks about it, and formulates that sentence anew. For the most part, this has little to do with inspiration and far more with organisation and discipline. Because at some point, dear deadline, you come around and demand what is owed you. Without you, Einstein might never have published his writings, without you there might be neither art nor science. Without you, dear deadline, this little text of mine certainly would not exist. Am I satisfied with it? I'm going to read it one more time, correct a few hurried mistakes, change the syntax here and there. Isn't this thought banal? Can one make that assertion? I look up another quote and add a reference to the history of the term. But I'm not going to spend much more time thinking about it, because you are waiting.

Dear deadline, as you can see, you are indispensable. You're not responsible for the stomachaches, nervousness and sweating, that is, for civilisation and its discontents, but for the achievements and the progress of this culture. That's why I want to praise you and celebrate you, honour you and applaud you! And, dear deadline, precisely because I know that you are going to be here – faster than I can imagine – I'm asking you to be kind and merciful. Just like every other boundary, you function only in moderation. So be patient, dear deadline, and then you will get what you are owed.



The literary scholar Caspar Battagay joined the Junge Akademie in 2015 and conducts research at the University of Lausanne. While writing this text he realised that, despite its bad reputation, he actually really likes the deadline.

THE BOUNDARIES BETWEEN US

Why can we understand what others are thinking and feeling?

TEXT PHILIPP KANSKE

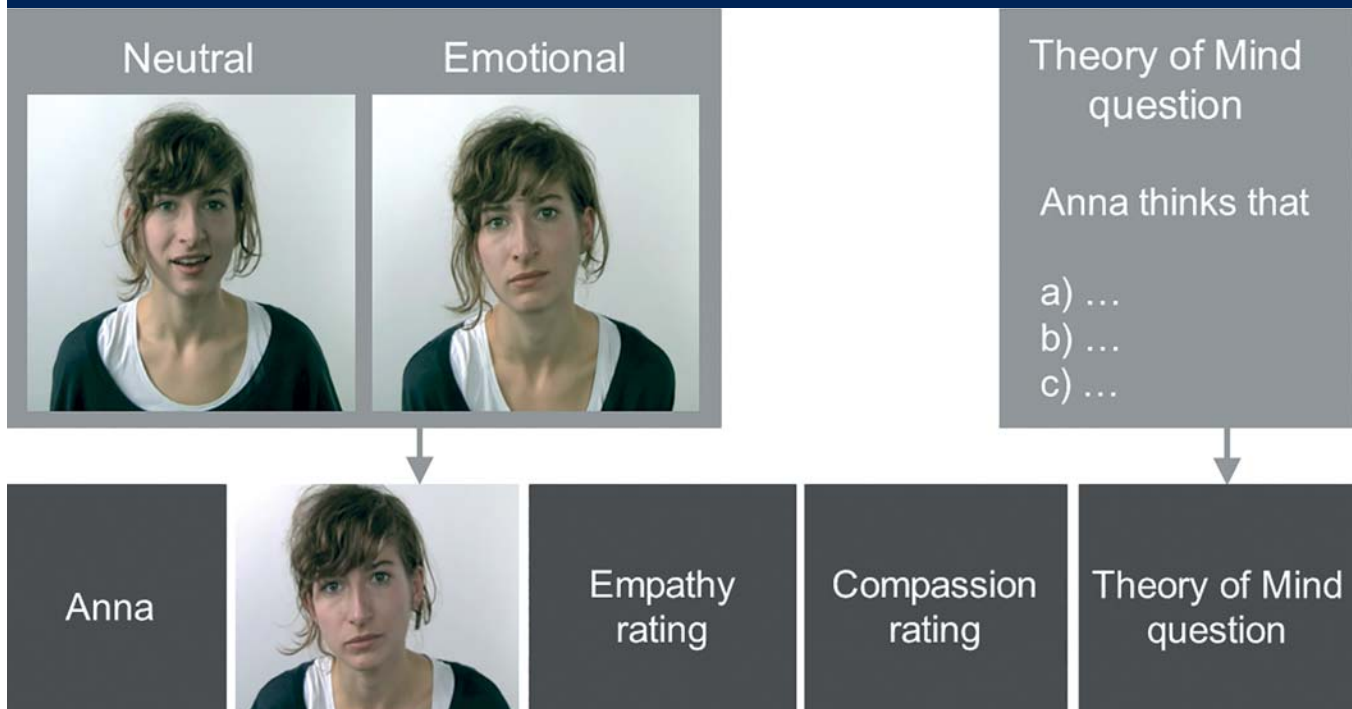


Figure 1

Test participants view a series of videos in which a person, such as Anna, tell short, autobiographical stories. Sometimes she speaks with a neutral voice and facial expressions, at other times she is visibly emotionally moved. During the experiment, the participants lie in an MRI system that produces images of their brains. This enables researchers to learn about the neural foundations of social understanding. After the MRI part, the participants are asked to estimate how much empathy and compassion they felt for Anna (empathy and compassion rating). At the end, they are asked what they think Anna may have been thinking about. The answer shows how well viewers are able to put themselves in Anna's position, i.e. how accurate their theory of mind is.

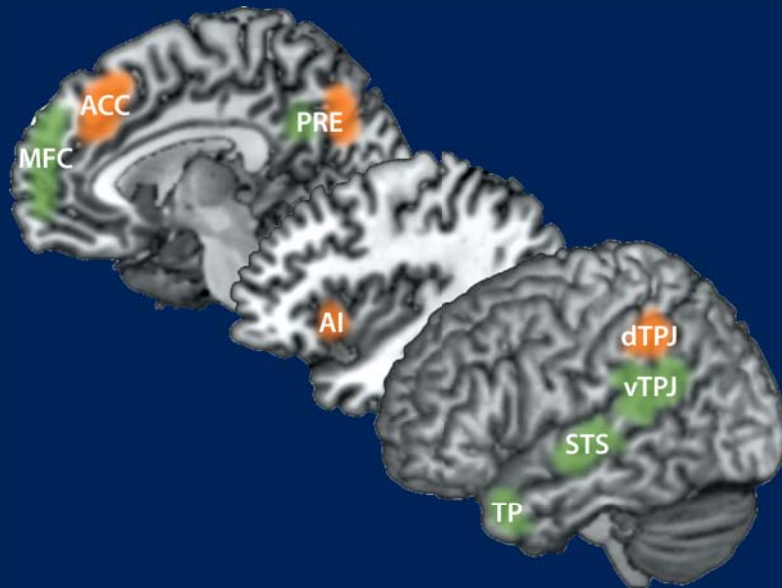


Figure 2

The red- and green-coloured brain structures are necessary for experiencing empathy and comprehending the thoughts and feelings of others, i.e. the formation of a theory of mind. When we listen to emotional stories told by others, the red areas are activated. They enable us to feel empathy. The activity is stronger the more we share the emotions of others. When we reflect on the thoughts and feelings of others, the green areas are activated. The stronger the activation here, the more accurately the test subjects were able to answer questions about the thoughts of others.

I meet up with an old friend. We have not seen each other for a long time and he tells me about a fight with his girlfriend. They are going to break up. His sadness is palpable, but he tries to crack jokes. What is happening here with me, the listener and observer? Is his story making me sad too? Is a feeling of caring, the wish to help him somehow, rising within me? And am I right in interpreting his jokes as his attempt to make it easier for me to spend the evening with him?

Different processes allow us to access the thoughts and feelings of others, allow us to bridge the boundary between two people. We describe these processes as empathy, compassion, or “theory of mind”. But what is actually happening in the brain during these processes?

The sadness of my friend is contagious and enables me to feel empathy because in my brain the same neural network is activated that allows me to feel sad when something happens to me. We are talking about “shared representations” (for your own feelings and the feelings of the other).

An important brain structure for sharing negative emotions is the frontal part of the insular cortex (the grey brain matter). For example, when we experience physical pain or observe physical pain being inflicted on others, this is the area of the brain that is active (see Fig. 2). On the other hand, if we are happy for a friend, say one who has just won the lottery, the ventral striatum is activated – just like when we win ourselves. It is as if our brain were simulating the state of the other in order to allow us to experience the same feeling.

What exactly is my friend feeling during the conversation: sadness about the separation or even bitterness? When I ask myself this question, I do not need to necessarily feel something myself. It is not through empathy but by thinking about my friend’s thoughts, through a “theory of his mind”, that I am able to overcome the boundary between us. This process activates an entirely different neural network than the one involved in empathy (see Fig. 2). This area is also active when we are making plans or remembering something, a way of “taking a walk through the knowledge in our memory”. Whether I am thinking about the



Figure 3

The activity in the yellow brain region, the striatum, depends on how strongly we feel compassion for someone.

feelings of others or about their thoughts and motivations (such as my friend's motivation for telling jokes despite his sadness), does not matter in this process.

Of course, the two networks operate not entirely separate from each other and are often active at the same time. They probably have a mutual influence on each other. If I am not able to see directly that another person is feeling pain, then I cannot feel direct empathy in the situation. Instead, I must first create a "theory of his mind" for myself to understand how he is doing. On the other hand, the knowledge that another person has behaved unfairly can cause me to feel less empathy for that person. Interestingly, it does not matter how real the suffering of the other person is; we cry for film characters and feel joy about the success of the hero in a book, too.

While empathy and "theory of mind" bridge the boundary between us and the other by giving us access to the another's thoughts and feelings, compassion creates this via another path. What is meant here is the feeling of warmth, caring, and even love for others who are in need. These feelings may be motivated by understanding the situation of the others, but it does not simulate the feelings of the other, nor is it a form of thinking about the other.

When we train compassion, for instance with the help of meditation, then another, third network in the brain is active (see Fig. 3). During the so-called loving-kindness meditation, participants practice training a benevolent, loving gaze on others. Here the boundary to the other also becomes smaller; this type of training leads to an increase in a person's willingness to help others.

Sometimes it is easier, sometimes harder to overcome the boundary between yourself and others. When we are in a difficult situation, even psychologically healthy people have a hard time taking others into consideration. Several psychologic issues go hand in hand with long-term problems in social understanding. Among people with autism, it is primarily the "theory of mind" that is affected: for example, the ability to imagine that the other person does not have the same knowledge of the world as I do develops later in people with autism. People with particularly strong antisocial personality disorders, i.e. psychopathy, are very limited in their ability to empathise with others. While healthy people are able to feel empathy quite spontaneously when they see someone else suffering, psychopaths only feel empathy when they make a conscious choice to feel it.

Improving social understanding is therefore one of the most critical questions in psychology today. This issue goes beyond dealing with psychological disorders. As a society, we must ask ourselves if we want to become more aware of the possibilities for overcoming the boundaries between ourselves and others, and even strangers. Speaking in William James' metaphor of people being like islands in the sea, but hanging together through the bottom of the ocean, it is time for a social deep-sea diving expedition to find out what connects people to each other. ☁

Philipp Kanske joined the Junge Akademie in 2015 and conducts research at the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig. His current work looks at where our thoughts wander when we daydream and whether the thought patterns that result from these wanderings vary among different types of mental disorders.

*Images: Kanske, P., Böckler, A., Trautwein, F.-M., & Singer, T. (2015). Dissecting the social brain: Introducing the EmpaToM to reveal distinct neural networks and brain-behavior relations for empathy and Theory of Mind. *NeuroImage*, 122, 6–19.*

*Kanske, P., Böckler, A., & Singer, T. (2015). Models, mechanisms and moderators dissociating empathy and Theory of Mind. In M. Wöhr, & S. Krach (Eds.), *Current Topics in Behavioral Neurosciences – Social Behavior from Rodents to Humans: Neural Foundations and Clinical Implications*.*

PUBLICATIONS 2015



BERUFUNGSPRAXIS BEI JUNIORPROFESSUREN IN DEUTSCHLAND 2005–2013

STUDIE DER AG WISSENSCHAFTSPOLITIK DER JUNGEN AKADEMIE

(APPOINTMENT PRACTICE FOR JUNIOR PROFESSORS IN GERMANY 2005–2013 STUDY BY THE RESEARCH GROUP 'SCIENCE POLICY' OF THE JUNGE AKADEMIE)

The study, conducted by 40 members and alumni of the *Junge Akademie*, depicts substantial differences among appointment practices for junior professorships. In light of current suggestions for establishing junior professorships as a “standard path” for tenure track positions, the authors call for a harmonisation of standards and a ban on in-house tenure track appointments for junior professors.

Editors

Moritz Schularick, Jule Specht, Sibylle Baumbach et al.

Publisher

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Publication available to download

www.diejungeakademie.de/publikationen/stellungnahmen



EXPEDITION MUNDUS

(GERMAN VERSION AVAILABLE TO DOWNLOAD)

Expedition Mundus is a learning game developed by the Dutch Young Academy in conjunction with the De Praktijk agency. Its goal is to introduce students to the world of research and to show them that the aim of academia is not to know the most facts, but to use one's curiosity, creativity and logical thinking skills. The game fosters children's joy of exploring. *Expedition Mundus* is designed for primary and secondary school students, and it is suitable for children 8 years and up.

Developers

De Praktijk & De Jonge Akademie (KNAW)

German Translation

Benjamin Weise and Caroline Jacobs-Henkel (Johannes Gutenberg University of Mainz), commissioned by the *Junge Akademie* and made possible by Materials Science in Mainz at the Johannes Gutenberg University Berlin / Mainz, 2015

Game available to download

www.diejungeakademie.de/aktivitaeten/wissenschaft-gesellschaft/spiel-expedition-mundus/downloads/fuer-mundus

AWARDS, HONOURS AND FELLOWSHIPS



KATHARINA DOMSCHKE | PRIZE FOR THE STUDY OF PSYCHOLOGICAL ILLNESSES

At the annual congress of the German Association for Psychiatry and Psychotherapy, Psychosomatics and Neurology (DGPPN) in November, Katharina Domschke was awarded the prize for the study of psychological illnesses. The prize is endowed with 7,500 euro and honours Domschke's work on epigenetic mechanisms in the creation and treatment of anxiety disorders and depression.



TOBIAS ERB | FUTURE AND EMERGING TECHNOLOGIES GRANT OF THE EUROPEAN RESEARCH COUNCIL

With the Future and Emerging Technologies Grants, the ERC supports visionary interdisciplinary research approaches to solving challenges our societies face today. For the project 'FutureAgriculture', Tobias Erb was awarded a grant together with researchers at the Weizmann Institute, Imperial College and the Max-Planck-Institute in Golm, in the amount of 4.8 million euro to be dispensed over five years. The project aims to increase the efficiency of photosynthesis with the help of synthetic biology.



LENA HENNINGSEN | JUNIOR PROFESSOR PROGRAM OF BADEN-WÜRTTEMBERG

In August, sinologist Lena Henningsen received funding approval for her project 'Reading, Text, and Authorship during the Cultural Revolution: literary worlds during the long years of the 1970s in the People's Republic of China'. The project has been running since November and aims to find out who was reading what during the Chinese Cultural Revolution, how the material was being read, for what reasons, and what consequences such reading could have for the readers as well as for society as a whole.



HENRIKE MANUWALD | ALBERT BÜRKLIN PRIZE

In December, the Scientific Society Freiburg awarded the 10,000 euro Albert Bürklin Prize to Henrike Manuwald for her extraordinarily broadly based medieval research. According to the jury, Manuwald's work is characterised by clear judgements whenever the sources allow for it, while simultaneously providing a careful assessment of the possible interpretations in those cases when the material does not point to a distinct conclusion.



ANGELIKA RIEMER | SCIENTIFIC PRIZE OF THE INGRID ZU SOLMS FOUNDATION

In November, Angelika Riemer was awarded the Scientific Prize for Medicine 2015 of the Ingrid zu Solms Foundation, endowed with 7,000 euro. With this prize, the Ingrid zu Solms Foundation honoured the ground-breaking original work of the young scientist in the field of medical foundational research. In addition, Riemer has received an extension of her Young Research Group 'Molecular Vaccine Design', based at the German Center for Infection Research, from 2016 to 2020.



HANS JAKOB WÖRNER | CARUS MEDAL

Since 1896, the National Academy of Sciences Leopoldina has honoured outstanding research with the Carus Medal. Hans Jakob Wörner received this award at the annual gathering 2015 of the Leopoldina in Halle for his experimental research on the observation of time-dependent quantum dynamics of electron movement in molecules on the sub-femto-second time scale. A profile of Hans Jakob Wörner can be found on pages 24 to 27 of this issue.




JADWIGA ZIÓLKOWSKA | FUNDING FOR TWO PROJECTS

The agricultural and environmental political scientist Jadwiga Ziółkowska has received funding for two projects: for the spring semester 2016 she has been awarded the Presidential Dream Course of the University of Oklahoma, endowed with 20,000 USD, as well as funding in the amount of 303,521 USD for the project 'Improving Resilience for the Rio Grande Coupled Human-Natural System'.

DON'T STOP NOW!

For a fundamental reform of the academic system

TEXT CHRISTIAN HOF



These are interesting times for everyone involved in the state of the academic system and its future. The injustice of the limited contract system is being discussed among academic staff as intensely as never before. Politicians have obviously understood by now that things cannot continue as they are. The goal they have declared: to create long-term opportunities for clever minds.

This has become necessary because even the best of the best have begun turning their backs on the system early on in their careers. And in fact, politicians have thrown themselves into a frenzy of activity that goes beyond their usual lip service.

The first act of this drama consists of the revision of the academic limited contract law. Yes, changes to the legal framework are indeed necessary, but they fall far too short to have any impact on the root of the problem. The second act of federal policy consists of 100 million euro of federal government money being provided every year for the next ten years in order to create better opportunities for young researchers. This “tenure track

billion”, whose exact use remains to be defined, may be a bright spot. But, as with other federal programs, this policy could also turn out to be a flash in the pan that will not enable the states’ higher education institutes to cook up anything worthwhile with their budgets.

This highlights the first of two obvious boundaries within German academic policy: federalism. The federal government wants to shape policy here and may even have the resources to do so. However, although the ban on co-operation within the education sector has recently been lifted, the federal government still does not have the power to intervene in the basic financing of the higher education institutes. The federal states, on the other hand, certainly do not have the means to better equip their universities. And the debt ceiling that will take effect in 2020 will turn the thumb screws even tighter on the state ministers for finance and particularly for the ministers for education.




If those in positions of responsibility do not manage to overcome the sometimes absurd federal boundaries in education policy, it is even more worthwhile to take a look at the second boundary. This boundary has less to do with policy than with academia itself, namely the limited willingness within the academy to rethink the system.

As early as 2013, the *Junge Akademie* has been proposing far-reaching changes to human resources structures, particularly the abolition of the professorial chair system. This would provide universities with cost-neutral solutions to multiple problems: career paths would become easier to plan, research would become more dynamic, and responsibility would be more fairly distributed.

Surprisingly, two rather different groups agree on embracing this proposal: the young researchers and retired post-holders such as former university directors and education senators. Among active professors, directors and education ministers, scepticism

is more prominent, which, at least among the latter, is due more to concerns about implementation than doubt over the reasonableness of the proposal.

The inertia of a system whose whole point is to bring forth new ideas and findings is contradictory only at first glance. For those who take the axe to the existing structures are endangering their own career paths. This is a psychological challenge that should certainly not be underestimated, one that far exceeds the comfort of the “it was always thus” stance. This should spur us on in our battle for liberating the thinking about this topic and for changing the structures of the academic system in a sustainable reform. This is an opportune moment for change – don’t stop now! 

The biologist Christian Hof works at the Senckenberg Biodiversity and Climate Research Center in Frankfurt and became a member of the Junge Akademie in 2015.

HOLY TEXTS

Forms and normative boundaries of their popularisation in Judaism, Christianity and Islam

TEXT HENRIKE MANUWALD

To what extent may 'holy texts' be modified in order to make them understandable for a wide target audience? Although Judaism, Christianity and Islam all produce different answers to this question, it is still possible to find parallels in their ways of dealing with this problem.

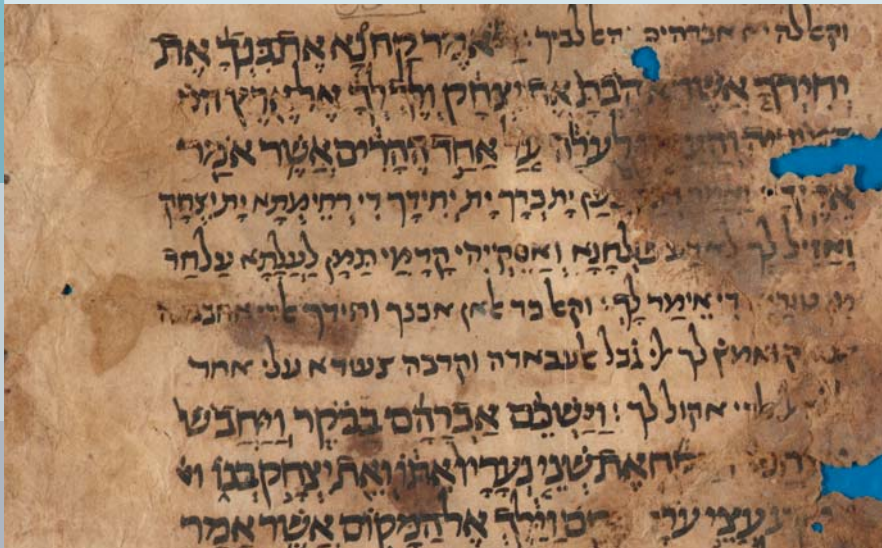
The 'holy texts' of the three large Abrahamic religions are characterised by a particular claim to immutability. This claim conflicts with the vision, held by each of the religions, of a wide audience of the faithful, as these texts require translation to a great extent. Shaped by the language and culture of the time in which they were created, these texts are no longer directly accessible for recipients living in later centuries. Even within religions such as Judaism and Islam, which demand that adherents study the Holy Texts in the original languages, we find not only commentaries on the texts but also translations into other languages. However, these translations are not necessarily regarded as equivalent to the original text.

Islamic theology in particular stresses the idea that a true 'translation' of the Koran is impossible, as such a text would always also be an interpretation. It must be said that that is generally true of all translations. The frequent contextual shifts that occur during the translation of a text into another language are particularly problematic when it comes to 'holy texts' and their claims to authority. When an original text is adapted in order to increase its accessibility for a broad audience, normative requirements are often left unfulfilled. As a result, the popularisation of a text can undermine the claim to authority of the original text. The tension between normativity and accessibility was the subject of a conference that grew out of the work of the RG 'Popular Culture(s)', held in Bern from 30 September to

2 October 2015. The conference was entitled 'The Popularisation of Holy Texts and their Normative Boundaries in Judaism, Christianity and Islam' and was organised by Katharina Heyden (Ancient History of Christianity and Interreligious Encounter, Bern), Henrike Manuwald (German Medieval Studies, Freiburg i. Br.), and Rebekka Voß (History of German and European Judaism, Frankfurt a. M.). Presenters included representatives of Jewish studies, Christian theology and Islamic studies as well as religious studies, literary studies (classical philology, Arab philology and German philology), history and art history.

The topics of the twelve papers and four poster presentations created by students and doctoral candidates ranged from the Vulgata (the Christian translation of the Bible into Latin that was created in late antiquity and served as a benchmark for several centuries) via Jewish children's Bibles of the 18th and 19th centuries to present-day Indonesian translations of the Koran, and from the visualisation of Biblical content in Byzantine and Jewish illuminated manuscripts to modern religious comics. Despite this broad spectrum, systemic overlaps between the different topics became apparent and engendered productive interdisciplinary discussions.

For example, a surprising convergence could be found in the optical hierarchisation of material from an original text and the translation or commentary on the text in manuscripts stemming from very different cultures. In many cases the size and type of script evidently reflect the authority of the respective original text. A corresponding hierarchisation can be found within the ritual recitation of texts, such as when the original text and the commentary text are recited by different speakers, thereby clearly delineating a boundary between the original and the secondary text.



Trilingual Bible fragment (Genesis 22:1–7, 22:23–23:8) from the Cairo Geniza: the descending hierarchy of the languages, from the Hebrew original to the Aramaic (Targum Onkelos) to the Arabic translation (Saadia Gaon), is reflected in the use of vocalisation and differing sizes and styles of script.

Cambridge University Library, Taylor-Schlechter Genizah Research Unit, TS AS 70.208 verso

What is true across the different religions is that when it comes to addressing target audiences, factors other than religious tradition, such as the social context, can play an equally big part. Furthermore, adaptation processes often occur within an already interreligious environment. Thus in a 10th-century translation of the Hebrew Bible into Arabic, the Islamic context in which the translation was produced is reflected in details such as the use of the term ‘imam’ to refer to high priests. Elsewhere, a Jewish children’s Bible from the late 18th century contains material that has been taken directly from a Christian catechism without any modification. The discussions during the conference also made the need for differentiation apparent. To begin with, the applied term ‘holy’ is interpreted differently by each religion. Yet, the comparative framework used during the conference revealed typological parallels between the religions in regard to how ‘holy texts’ are made accessible. The discussion’s initial focus on the normative boundaries of the popularisation of ‘holy texts’ led to further observations among participants on the production and enactment of normativity in manifestations of ‘holy texts’ in various media.

The event was rounded off with a visit to the ‘House of Religions’ in Bern, a cultural centre inaugurated in December 2014 in which Christians, Alevites, Muslims, Hindus, and Buddhists have established individual sacred spaces equipped for each faith. The idea was supported by Jews, Baha’is and Sikhs. The result is a space in which different norms collide. This applies

not only to the different religions, but also to the individual groups within a single religion: how can Ethiopian Christians, for whom religious imagery is a permanent aspect of their sacred space, share a sacred space with Herrnhuter, who firmly reject such images?

A creative solution for this problem was found in the ‘House of Religions’: the orientation of the Christian space is changed according to the group using the space, so that the permanently installed image wall of the Ethiopian Christians does not distract the Herrnhuter during their word-based service. In regard to the conference topic, the visitors’ meeting with Hindu priest Sasikumar Tharmalingam was particularly eye-opening. As the Hindu temple in Bern is primarily used by Tamils, Tharmalingam has introduced the practice of celebrating puja, the traditional prayer ritual, in Tamil instead of in Sanskrit, which enables all participants to understand the ritual. In this case, the believers’ right to a translation into their own language was based on ideas found in ‘holy texts’, namely Hindu writings. This lived popularisation demonstrates the impressive actuality of the conference topic.

Henrike Manuwald became a member of the Junge Akademie in 2012 and is Junior Professor for German Medieval Studies at the University of Freiburg.

FASCINATED BY THE UNKNOWN

All societies share an interest in the past and the future, but their attitudes towards these times vary greatly

TEXT ANNELIESE KUHLE AND HARRY QUAKYI

Unknown time, to put it briefly, is that aspect of a present, past or future that we cannot (yet) define and therefore perceive as foreign. It is this foreignness that endows the unknown time with the power to fascinate. But what exactly is fascination?

Scholars from many different disciplines and many different parts of the world came together for the conference 'The Fascination of the Unknown: Time', organised by *JA* members Lena Henningsen, Sibylle Baumbach, Katharina Heyden and the alumnus Klaus Oschema in Berlin from 9 to 11 July 2015. A group of 20 experts from the fields of music, cultural studies, history and literary studies as well as archaeology, ethnology and philosophy converged for two days to discuss the fascination potential of unknown time(s).

Etymologically, the term 'fascinate' derives from Latin ('fascinare' = 'to bewitch'), and was initially used mainly in regard to (black) magic and the tradition of the evil eye, as Sibylle Baumbach (Innsbruck) explained in her introductory remarks. Since then, the term has lost most of its negative connotations and is frequently used in connection with positive powers of attraction.

Unknown times can be fascinating for different reasons. As noted by Anke Holdenried (Bristol), during the medieval period, there was a need to re-interpret texts from antiquity in order to apply their contents to individual religious welfare and healing at that time. As a result, the translations created during this period touched on contemporary concerns.

In the mid-20th century, Maxim Gorky's texts became available in China. Wendy Larson (Portland, Oregon), described how

Gorky's work advanced to an instrument of political power. The populace was faced with a show of optimism as a means of glossing over resource deficiencies. It is hard to say exactly where the object of fascination lay here for the population.

Other contributions looked to the future and its significance for securing constructive options for action as well as for the self-perception of a society in the present. Walther C. Zimmerli (Berlin) provided the philosophical foundation for this overarching topic with his opening speech on 'Are we making time or is time making us?' According to Zimmerli, only the future allows a plurality of actions, as it is the only temporal dimension that is not yet filled with time. The resulting options for thinking about the future are, however, used very differently by different societies.

In his contribution, András Kraft (Budapest) illustrated how the apocalypse stories of the Byzantine Empire navigated a deliberate course between a linear-finite and an episodic time measurement. This enabled the population to feel that the end of the world was nigh, yet at the same time to regard themselves as the final crowning glory of Christian society.

By contrast, Daniel E. Agbiboa (Oxford), whose contribution focused on the Nigerian capital of Lagos, described the population's perception of the present as chaotic. According to Agbiboa, the inhabitants of this city would be almost unable to act at all were it not for their God-fearing projection of a supposedly better future. As a result, he argued, the individual becomes sufficiently capable of suffering and filled with confidence.



FASCINATION OF THE UNKNOWN

The conference was a continuation of the event series 'The Fascination of the Unknown' organised by the RG 'Fascination'. The series was inaugurated in 2014 with a focus on the topic 'Space' and will continue in 2016 with a focus on 'The Fascination of the Other'.

The second day of the conference focused on putting the viewer in mind of time as a hybrid, multi-perspective construct, with the goal of enabling him or her to achieve a meaningful or paradoxical perception of his or her surroundings. Sheldon Lu's (Davis, California) presentation revolved around the films of the Chinese director Wong Kar Wai, in which, according to Lu, the unknown of foreign epochs becomes accessible to the viewer only because he or she adds to the snapshots of the barely suggested past with images and emotions from his or her own world of experience. As a result, the (sensation) of a fascinating past blends into that of the present. In her presentation, Evelyn Runge (Hildesheim) pointed out that even in photography, one must differentiate between the creation of a photo and its perception: only in the latter does a sufficient distance arise between the observer and the photograph to allow one to regard the object removed from its historical context. Runge also noted that the role of photographers is potentially manipulative, as photographers can falsify the time or context of the photo while also selectively excluding certain events precisely in order to generate the viewer's interest in the unknown.

As Kai Wiegandt (Berlin) noted in his contribution, the science fiction novel allows readers to observe, evaluate and criticise the present from the perspective of an imaginary future. As a result, current longings are reflected and humans' reactions to unknown realities played out in a fictional space. In his novel *Tau Zero*, the author Poul Anderson allows the protagonists to traverse entire decades, millennia or even billions of years – all the way to the end of the universe and a new big bang. The point of this exaggerated example is to illuminate how we can manage and overcome the "inconceivable".

'The boundaries of my language mark the boundaries of my world,' Ludwig Wittgenstein once declared. At the end of the conference, the participants opted to individually investigate the multi-layered questions that had arisen during the discussion and allow them to flow into their own research. 'To boldly go where no man has gone before' is to be the standard under which new approaches shall be formulated. Why does unknown time fascinate us? The participants' work on this topic will be published in an edited volume.

FEMALE ACADEMICS

A German-Japanese conference takes a look at gender equality and opportunity in Science

TEXT ULRIKE ENDESFELDER

Japan and Germany are becoming increasingly engaged in promoting diversity and excellence in Science. Both countries focus on this topic as each one has a low birth rate of around 1.4 children per woman, while the portion of retirees is large at 20 per cent of the population, and rising. In Japan and Germany about 50 per cent of the population – men as well as women – begin university studies, but many sharp minds drop out during the qualifying career path, especially women. In Germany, 27 per cent of researchers are women, while in Japan, it is only 15 per cent.

In addition to the gender equality demanded by society, economic reasons also boost the case for promoting women in research careers: more women with higher qualifications would lead to more resources being available in the labour market while also ensuring higher levels of excellence as a result of greater diversity. Both countries have implemented approaches to increase the number of women in research positions: the cabinet of Japanese Prime Minister Shinzo Abe has a strong focus on a sustainable and active inclusion of the entire population in the society, particularly ‘towards creating a society in which women shine.’ The German Chancellor Angela Merkel has taken a similar stance, stating, ‘Academia does not fulfil its potential when it is exclusively male. In this case, it promotes only half the talent available.’

Germany has created programs intended to appeal to young female researchers, such as the national pact for women in MINT careers, the initiative UniWiND, the female professor program of the Federal Ministry of Education and Research, the “research-oriented equality standards” of the German Research Foundation, and the excellence initiatives. Particular for Japan is the country’s establishment of women’s universities.

How much do these actions contribute to creating more diversity and equality? What makes a research career attractive for young female academics? Where are differences in career opportunities regarding gender, age, marital status, religion or nationality? What is necessary for female academics to be able to work productively, creatively, and in a focused manner?

In September 2015, German and Japanese researchers and representatives of various research and funding institutions came together in Tokyo to discuss these questions at the ‘Diversity for Academic Excellence: Creating Opportunities for Female and Young Scholars’ conference organised by the Japanese-German Center Berlin, the Japan Foundation, and the Japan Science Council. The discussion showed that academic career paths are strongly influenced by similar uncertainties in both countries: the qualification phase for the small number of permanent positions is very long and simultaneously marked by insecurity due to the existence of temporary contracts of short duration, while frequent moves from place to place and rapid research success are expected elements of the young careers.

The percentage of women in academia develops differently in the two countries depending on the degree of qualification: although the same number of women as men starts university studies, in Japan the percentage of women decreases noticeably sooner than in Germany, particularly after attaining the first university qualification, the bachelor’s degree. Women make up only 25 per cent of Japanese students enrolled in master’s programs.

In Germany, on the other hand, 41 per cent of doctoral students are women, and this percentage declines dramatically at the beginning of the post-doc phase. This later leaving of scientific

careers can be explained in the light of the high social prestige that academic degrees bear in Germany.

For Japanese women, every university qualification after the bachelor's degree drastically reduces their chances on the labour market. It is rare to see PhD titles next to a female name because it draws attention to the bearer, which is culturally undesirable in Japan. At the conference, Japanese participants talked about social prejudices attached to female academics, such as the claim that they put their careers ahead of their families and the idea that their higher qualification makes them uninteresting as a partner. What is missing in Japan – even more so than in Germany – is an established culture of women in Science. When Japanese women pursue a PhD, they are doubly disadvantaged: both in their careers and in their lives within society.

Another difference between the two countries lies in the area of funding for university studies. In Japan, it is almost always the parents who finance their children's studies, whereby daughters are usually at a disadvantage. Furthermore, due to the large share of the education market held by private institutions (70 per cent), advanced studies are an expensive matter. Japan lacks state scholarships and funding programs such as the German BAföG. Strong differences also exist between the quality and reputation of schools and universities. As acceptance by excellent universities depends on the choice of schools, which in turn is limited by both financial as well as structural factors, changes to the system would need to be implemented at an early stage. The influence of parents and students' financial dependence on their

families not only applies to pupils and students in bachelor's and master's programs, but also to doctoral students. Those pursuing PhD courses are enrolled in doctoral programs just like other students and therefore do not achieve the independence that German PhD candidates have as a result of the German system of employment for doctoral students; including an income and insurance benefits (despite usually short contracts and part-time positions).

All of the young scientific leaders who attended the conference, particularly the female participants, request significantly less uncertainty within Science: what is needed are longer-term and more family-friendly opportunities with a future that can be transparently planned, along with sustainable institutional structures and an earlier trust in carefully selected individuals. Especially the appointment process was critically reviewed: many institutions lack a fair, professionally moderated or even certified process with set deadlines for results, clearly defined job specifications, and tenure track options. Although few participants described having undergone a deliberately discriminatory experience, many of them have experienced implicit gender bias, such as gender-dependent visibility and professional recognition. All participants agreed that in both countries, a successful transformation will not only require women being added to the existing system, but also profound structural changes. ✨

The biophysicist Ulrike Endesfelder works at the Max-Planck-Institute for Terrestrial Microbiology in Marburg & LOEWE Center for Synthetic Microbiology within the Department for Systems and Synthetic Microbiology. She has been a member of the Junge Akademie since 2015.



ATEMLOS DURCH DIE NACHT

From dusk till dawn: what 22 scholarship holders can achieve in six days

TEXT SVEN DIEDERICHS



The Summer Academy was jointly organised by the Junge Akademie and the German Academic Scholarship Foundation for the second year in a row. From August 23rd to 30th, 2015, six Research Groups headed by members of the Junge Akademie came together in Kloster Roggenburg. The topics investigated by the groups ranged from 'The Molecule of Life' to 'Optical Invisibility Cloaks' to '(In-)visibilities in Film and Literature'.

Helene Fischer does not sing for just anyone, but on the final evening of the Summer Academy 2015, her song 'Atemlos durch die Nacht' ('Breathless through the night') was sung in unison: in honour of the Research Group 'The Cancer Genome'. It was also meticulously noted by the Summer Academy participants that members of this RG achieved two statistically significant values: for lowest alcohol consumption and highest number of hours worked. How did this happen?

The RG 'The Cancer Genome – Discoveries from the "Dark Material" of Human DNA' had set itself an ambitious goal: 22 scholars had six days (a notorious amount of time in which one can manage to create quite something) to complete an overview article for an academic journal. From morning to night, the members tirelessly skimmed more than 2,100 academic articles on the significance of non-coding areas in the human genome in order to filter out the 250 most relevant texts.

Six days and nights later, the project was indeed finished: a manuscript of 4,631 words and three images was ready (and some of the participants ready to drop)! Their text is the first overview article ever on this topic. It has been favorably reviewed at a renowned academic journal – with all 22 participants as co-authors – and will appear in print in summer 2016.

After the RG 'Philosophical Problems of Statistics' had finished its collection of party statistics on the last day of the Summer Academy, the 'The Cancer Genome' group, not easily put off, managed to catch up quickly even in this category. The group already has plans for a reunion in Heidelberg in order to celebrate the publication of its article.

‘IS LEAVING ACADEMIA THE ONLY REMAINING OPTION?’

For four months, male and female academics exchanged ideas on an internet platform about the possibilities of combining family with an academic career. The contributions provoke both further speculation and protest

TEXT VERONIKA LIPPHARDT

When we launched our dialogue platform ‘Compatibility of an Academic Career and Family’ in the summer of 2015, the echo it received was strong, intense, and controversial. We were impressed by how much time, thought, and eloquence the participants invested in their responses. Almost all of them posted anonymously and most of the texts turned out to be rather depressing. ‘Most of the contributions on the dialogue platform,’ one reader wrote in an email to us, ‘make me sad. Don’t you feel the same way?’

I found that the posts also made me sad at times, but mainly they made me think. I had expected a more colourful picture to emerge; not because some people happen to be lucky and find a good path while others do not ever manage to find that path, but because one individual can have many diverse experiences. My own path towards career and family was accompanied by both discouraging and encouraging experiences.

Unfortunately, the negative stories are more frequently remembered. They circulate more easily than the positive stories, dominate the conversation and discourage younger colleagues, even if they have barely had any negative experiences of their own. In the platform contributions of those who have not yet secured a permanent position as a professor, we can observe how

the authors weigh different stories against each other and try to think through what it would be like to have such a challenging position: how would I manage? Would I be able to endure it?

‘Career and family – it’s a manageable challenge’

Posted by Anonymous

A female junior professor who has one child wrote, ‘For the first time since the start of my doctoral dissertation I have serious doubts about myself as a scholar and about my research career. I become anxious when I think about the second child that we definitely want to have. How much strength and energy will I still have left for the balancing act when that happens, or will my only option be to leave academia?’ It has to be said that nowadays there are many excellent female professors who have two or more children. Different factors have contributed to this achievement. Maybe these women also had to battle their self-doubts, maybe they also wrestled with themselves and repeatedly asked themselves whether a path would open up for them, whether they were sufficiently talented or had enough endurance, whether they would make it nor not. One of them wrote, ‘I have now been working as a professor for 14 years, my only

daughter has graduated from high school – throughout these years, the question of the compatibility of research, family, child welfare, and successful marriage was the most difficult one of all.’ Then she describes how she made it work. Another contributor wrote, ‘Career and family – it’s a manageable challenge,’ and added some good tips (see post from 7 August 2015).

We had hoped that these contributions would have a type of coaching effect. Did that work? I do not dare to guess. Our platform actually could have an empowering effect on readers: it can be encouraging to discover that others share your opinion, that others came to similar conclusions for themselves or that they feel the problem lies in the same place. ‘It is wonderful to have this forum,’ one anonymous female reader wrote. ‘Thank you for providing the possibility to read about what others say or possibly even write your own post about the things that weigh on us every day. I have – as always – no time and can’t provide a systematic contribution.’ Then in three brief paragraphs she described her own desperate situation so compellingly that I could barely stop thinking about what she had written.

‘If this is the path to combining career and family that this country is aiming for, then I’m happy to leave this country’

A man

Others used the dialogue platform to publish their analyses of the situation in Germany. One contribution was particularly intensely discussed. Under the title, ‘This is how it can be done’, the author (who could be male or female, it is unclear), recommended that academics wait to have children until after having

completed their post-doctoral qualification, create a rigid career plan, and, if they felt ‘the slightest doubt’ arising about whether they were good enough, that they ‘opt for a field other than academia.’ Commentators criticised each of the seven individual points as well as the overall view of the author: ‘A shameful contribution,’ exclaimed one comment, signed simply ‘A man’. This critic went on to state that the contribution reflected, ‘Pure opportunism, that weaves the meaning of life into a career, one that is only possible because of this kind of an attitude,’ and then noted, ‘Yes, it is possible to combine family and career, but not by planning your pregnancies according to the motto promoted here, “When it is least offensive to colleagues/superiors/mentors.” If that is the compatibility that this country is aiming for, then I’m happy to leave this country. Until then we’ll continue fighting for our academic career “despite kids” (that is, after all, the sad reality).’

Also of interest was the discussion about whether the enormous pressure that sets parents apart among academics is an essential component of the academic system, one that ensures competition and excellence. Some contributors felt that there is a tendency in academia to complain on a high level and they pointed out that much has already happened within the system towards improving it. They argued that further efforts to facilitate the compatibility of family and career would undermine the principles of competition and performance in academia. Furthermore, they claimed that it was even more difficult for people working in the private sector to find a balance between family and career.

Others argued that this position fails to recognise the fact that the issue of compatibility of family and career is not a general characteristic of academia everywhere, but a specifically German issue. Dr René Krempkow, in his contribution based

on quantitative studies, showed that young post-doc researchers in other European countries are just as likely to have children as professors and other university graduates in those countries are. In Germany, a significantly smaller number of post-doctoral researchers have families, although many of them express the wish to have children. Other participants argued that there is less pressure to rise quickly in the private sector. Some of the hardship of fixed-term contracts is compensated for through higher salaries and generous severance payments, while at the same time the private sector labour market is significantly broader, with positions being filled more quickly and through less complicated processes. Participants noted that in comparison with other occupations, in academia the pressure to 'stick with it', to 'be noticed', to work on a thematically stringent profile and to complete a predefined career ladder, is particularly inflexible and high-risk.

All in all, the need to exchange ideas and to receive mentoring and coaching is quite high among academics. Six months after my appointment to a professorship at my new university in Freiburg, the commissioner for women's issues invited me to a dinner talk with young researchers, both male and female, who overwhelmed me with questions. My experiences with the dialogue platform helped me to find answers to these questions. Last but not least, I can say: I was successful not despite but because of my children. There are not words enough to express the joy that the two of them brought me in all of those difficult years!



Veronika Lipphardt is Professor for Science and Technology Studies at the University College of the Albert Ludwig University Freiburg since 2015. She was a member of the Junge Akademie from 2010 to 2015.

HOW FAMILY FRIENDLY IS GERMANY'S ACADEMIC SYSTEM?

What is the truth about the compatibility of career and family for academics who find themselves between PhD thesis and professorship while balancing the daily demands of parenthood? To find out, we asked them! You can find the results on our online platform:

<http://blog.diejungeakademie.de/>

We put out a call for academics as well as others interested in the topic to participate in the discussion from 15 June to 30 September 2015. The numerous reports, opinions, and wishes we received in response show what needs to change, how the balancing act can succeed, and precisely how it can fail.

We are currently preparing a brochure for publication which will contain select contributions as well as an evaluation of the results of the discussion. The printed brochure can be pre-ordered online and will be available to download from this blog starting in April 2016.

The blog will continue to stay online, but inactive.

A NEW DIRECTION FOR ACADEMIA IN THE MIDDLE EAST

The work of the Israeli Young Academy for pluralism in academia and society

TEXT SHARON ARONSON-LEHAVI

The Israel Young Academy was founded in 2012 by the Israel Academy of Sciences and Humanities. Following the appointment of its first 26 members by the Israel Academy, the Israel Young Academy (IYA) operates independently, with the support and assistance of the Israel Academy.

The first year of IYA's activity was dedicated to creating and articulating its vision, goals, regulations, modes of activity, and even its logo. The pomegranates in the logo refer to those in the logo of the Israel Academy of Sciences and signify potentiality and pluralism that the IYA has emphasised since its foundation. Accordingly, the IYA strives in its membership for a balanced representation of disciplines (exact sciences, life sciences, humanities, and social sciences) and for appropriate sectorial representation of Israel's population and academic community, subject to the criterion of scholarly excellence. Members in the IYA are excellent scholars under the age of 45 who are committed to taking initiative and to promoting the goals of the IYA.

The goals that the IYA set to achieve include the advancement of the status of young scholars in Israel; the enhancement of the relationships between scholars and policy-makers and between academia and society; the cultivation of interdisciplinary relationships and collaborations between young researchers; and the encouragement of joint research and collaboration with young scholars throughout the world.

The IYA meets twice a year. The fall meeting is dedicated to discussing ongoing and new projects as well as to electing members of the IYA to its various committees. In the spring meeting ongoing projects are discussed and the IYA holds its annual election of new members. In addition to these assembly meetings the committees and Research Groups meet regularly to work on and promote the various projects. The IYA committees include the Executive committee, which comprises three members (including the Chairperson), representing, respectively, the humanities, social sciences, and the natural sciences (including the life sciences, engineering and medicine). The members of the Executive Committee are elected by the General Assembly. Other committees include the fundraising committee, membership committee, and the parliament committee which maintains contact with the Science and Education Committees of the Knesset for the purpose of promoting relationships between the academic community, policy makers and society.

Among the projects that the IYA has carried out since its foundation are a symposium on 'Gender and Academic Careers' (June 2013), which dealt with the advancement, integration, and empowerment of women in the academic system in Israel and with issues of gender equality within the academia. In 2014 the IYA distributed a detailed questionnaire about the experience of young researchers at the entry level to research universities in Israel. The questionnaire was distributed among young researchers who got positions over the past decade in order to learn about their needs and experiences at the entry level. The results



are currently being collated. In February 2015, the IYA and *Die Junge Akademie* held a collaborative interdisciplinary symposium on 'Big Data and the Future of Research in the Digital Age' in Jerusalem, during which research projects of members of both academies were presented, and questions regarding methodologies, visualisation, ethics, and creativity in the digital age were addressed. This collaborative symposium is planned to be followed by another collaborative symposium under the title 'Wo/Man, Mind, Machine' which will take place in Berlin in June 2016.

Other projects that are being developed by the IYA include 'Sal Mada' (literally – 'a basket of science') which is designed to organise visits of high-school students at universities in Israel in order to experience firsthand what research is, and to encourage young students to choose an academic career. Another project that is being developed these days is intended to attract international post-doctoral researchers to conduct their research in Israel. Finally, members of the IYA regularly give talks at public events and at high schools about their own research and about the activities of the academia and its relations to society.

While the IYA is energetically developing its projects and materialising its vision, there are still many academic, social, and cultural issues and challenges that need to be addressed and to which the IYA will dedicate its activities in the years to come. Our focus is on keeping Israeli science a vibrant success story (for example by attracting top notch postdocs from the world, including Germany, to come to Israel) and ensuring mutual support and understanding between Israeli academia and the general public by bringing the young faces of academia to the front.

Sharon Aronson-Lebavi is Senior Lecturer in Theatre and Performance Studies at Bar-Ilan University, Ramat-Gan, and former Chair of the IYA Executive Committee.



The Israel Academy is located next door to the official residence of the President of Israel and The Van Leer Jerusalem Institute, and is an integral part of a campus representing the leadership of higher education and research in Israel – including the Israel Science Foundation, the Council for Higher Education and the Planning and Budgeting Committee

EVENTS 2015/2016

Review	25/26 September 2015	“Career Paths in German Academia” <i>JA</i> Guest Appearance: Workshop Discussion of the Volkswagen Foundation <i>(Hanover)</i>
	30 September to 2 October	“Popularising Holy Texts and Their Normative Boundaries in Judaism, Christianity and Islam” Conference run by the RG ‘Popular Culture(s)’ <i>(Bern)</i>
	2 October	“The Next Generation of Academics Needs Opportunities” <i>JA</i> Guest Appearance: Podium Discussion of the Werner-von-Siemens-Ring Foundation <i>(Berlin)</i>
	24 October	“The Village Festival” Production by Bernhard Herborcht and Melanie Mohren in co-operation with the RG ‘Art as Research?’ <i>(Stuttgart)</i>
	1/2 November	“Governance of Science” <i>JA</i> Guest Appearance: Workshop of the Volkswagen Foundation and the National Academy of Sciences Leopoldina <i>(Hanover)</i>
	2/3 November	Forum of Young Academics and Specialists of the Azerbaijani Academy of Sciences <i>JA</i> Guest Appearance <i>(Baku)</i>
	4/5 November	Annual Conference of the European Young Academies <i>(Brussels)</i>
	5/6 November	“Research – Idea and Reality” <i>JA</i> Guest Appearance: Autumn Meeting of the Austrian Science Council <i>(Vienna)</i>
	7/8 November	“Research and Education for the 21st Century” <i>JA</i> Guest Appearance: Future Convention of the University of Kiel <i>(Kiel)</i>
	11 November	“Everything excellent? The Future of the Academic System” <i>JA</i> Guest Appearance: Conference of the Friedrich Ebert Foundation <i>(Berlin)</i>
	12 November	“Be a Better Being. Introducing a New Format” Podium Discussion as Project Kick-off <i>(Berlin)</i>
	16 to 18 November	Meeting of Young Academies Worldwide <i>(Stockholm)</i>
	25 November	MOZ-Talk of the Märkische Oderzeitung and Exhibition in the Kleist Forum <i>(Frankfurt/Oder)</i>

Review	2/3 December	Podium Discussion on the new Academic Temporary Contract Law JA Guest Appearance: Annual Meeting of the Centre for Research Management (Berlin)	
	23 December	JA Guest Appearance: RBB Kulturradio – Music of the Present	
	23 January 2016	“Other Worlds – Other Selves?” Contributions to the Salon Sophie Charlotte of the Berlin-Brandenburg Academy of Sciences (Berlin)	
	23/24 January	Workshops of the RGs ‘Science Policy’, ‘Two Cultures of Research’ and ‘Big Data’ (Berlin)	
	3 to 5 March	Spring plenary session (Strasbourg)	
	25/26 April	Workshop of the RG ‘Visualisation’ (Frankfurt/Main)	
	13 May	Conference “Refugees Welcome? Refugees at German Universities” (Berlin)	
	What’s on in 2016	10 June	Member and Alumni Evening (Berlin)
		11 June	Summer plenary session and Junge Akademie gala (Berlin)
		13 to 15 June	“Wo/Man, Mind, Machine” Joint Meeting of the Israel Young Academy (Berlin)
7 to 14 August		Summer Academy with the German National Academic Foundation (Kloster Roggenburg)	
23/24 September		“Imaginary Foods. Food in Contemporary Culture” Workshop of the RG ‘Popular Culture(s)’ (Berlin)	
28 to 30 September		“Denaturalizing Climate Change. Perspectives for Critical Adaptation Research” German-Mexican and international conference on the occasion of the Year of Germany in Mexico (Oaxaca de Juárez)	
6 to 8 October		Autumn plenary session (Bremen)	

CATCHING UP WITH ...

Eva Horn, Member of the *Junge Akademie* from 2001 to 2006

What is the first thing that comes to mind when you think of the *Junge Akademie*?

I learned an incredible amount about meerkats, immune systems, and test series in psychology. My understanding of other fields with their completely different research logics helps me today when I'm sitting on juries or review panels.

You were the head of the RG 'Resistance'. Isn't that kind of Research Group even more necessary today than it was then?

Yes, probably. But the problems and questions have clearly shifted over the years since 9/11 and the doctrinal defensive thinking of the Bush administration.

In 2002 you published a book that sounds highly topical now. Why should we read *Grenzverletzer (Border Violators)* today?

Precisely because that book is not about the politics of the day. Instead, what we're trying to achieve in it is to use a theoretical perspective to think about the political and humanitarian effects of territorial boundaries. The question of whether we can "keep people out" because they have the wrong passport or none at all has arisen with a new urgency – just like the question about what massive immigration means for a society. Maybe the USA as an immigration society is a role model in this regard. We should find out what successful immigration societies did right.

You teach literature at the University of Vienna and often commute to New York, Berlin or Singapore. When was the last time you were aware of a border?

As a result of the refugee crisis, which is very noticeable here in Vienna, we have started to rethink the sense and senselessness of territorial boundaries. What is uncanny is the fact that I as the holder of an EU passport barely notice borders, while those same borders can be insurmountable and often deadly obstacles for other people.

What kinds of borders influence your work?

For me, disciplinary borders are the most tangible. I am not the kind of person to concentrate on one field my entire life. As a cultural studies scholar, I love to tackle new problems and



ABOUT THE INTERVIEWEE

Eva Horn was appointed Professor for Contemporary German Literature at the University of Vienna in 2009. As a member of the *Junge Akademie*, she led the Research Group 'Resistance', which focused on political as well as biological types of defense.

new areas. But at the same time, that makes you very aware of borders between disciplines and specialisations. I always have to find a new way into a subject matter and its history.

You are part of the discussion group 'Intelligence Agencies in Germany'. Are there boundaries to secretiveness?

We discuss to what extent political control is compatible with secretiveness. Control often comes too late and is hard to combine with rapid action or international co-operation between intelligence agencies. And yet it's indispensable in a democracy.

What's next for you?

I'm currently writing a book about the cultural history of the climate. My travels to the tropics showed me how much we are influenced by the climate and how deeply climate change will transform our culture.



THE JUNGE AKADEMIE

The *Junge Akademie* (JA) was founded in 2000 as a joint project of the Berlin-Brandenburg Academy of Sciences and Humanities (*Berlin-Brandenburgische Akademie der Wissenschaften – BBAW*) and the German National Academy of Sciences Leopoldina (*Deutsche Akademie der Naturforscher Leopoldina*). It is the world's first academy of young academics. The *Junge Akademie* is co-owned by both academies, the *BBAW* and the *Leopoldina*. Since 2011 it has been firmly anchored administratively in the Leopoldina's budget and funded by the Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung*) and the *Länder* Berlin, Brandenburg and Sachsen-Anhalt. Its fifty members, young academics from German-speaking countries, engage in interdisciplinary discourse and are active at the intersection of academia and society.



Die Junge Akademie

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