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JOINT ACADEMY DAY 2018 – OEAW-KNAW

JOINT ACADEMY DAY 2018

OEAW-KNAW

11th OCTOBER 2018 – AUSTRIAN ACADEMY OF SCIENCES

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EDITORIAL

ANTON ZEILINGER

Despite various regional differences, Academies worldwide face similar tasks and challenges. The Austrian Academy of Sciences is therefore pleased to present for the first time results of a new kind of activity that aims to address these issues: the “Joint Academy Days”.

The purpose of the Joint Academy Days is to bring together members and scientists of our and other Academies to discuss scientific policy issues. By doing so, we intend to strengthen our cooperation with foreign partner academies, and to contribute to academic exchange between members and staff on a personal basis.

We were delighted that the Royal Academy of the Netherlands, KNAW, accepted our invitation to be part of our first Joint Academy Day. It is worth mentioning that this was not just a regular invitation to participate, but also an invitation to

co-design the format and conceptualise the overall event. I thus wish to thank the KNAW most warmly for their constructive collaboration.

The Joint Academy Day was organised as a workshop with six panels, comprising altogether 34 scientists from both Academies. For the purpose of this publication, the contributions and discussions have been edited and slightly abridged.

I wish you a stimulating read.

INTRODUCTION

OLIVER JENS SCHMITT

Academies are scholarly societies; some of them, like the OeAW, also run their own research institutes and are committed to promoting research. With their extensive international connections, these scholarly organisations unite outstanding researchers. In order to make better institutional use of these connections, the OeAW has established the Joint Academy Day format, intended to bring together one or several partner academies and members of the OeAW in the form of structured discussions on topics jointly agreed upon and prepared in this partnership. The OeAW is delighted that the KNAW is the first partner academy to join them on this intellectual adventure. I personally have fond memories of the productive and efficient discussions with our Dutch colleagues enabling both swift implementation and more precise development of the concept. Several topics emerged from the preparatory debate:

1. Ethical questions concerning research in and about authoritarian regimes, a challenge facing mainly (but certainly not only) area studies – and increasingly so, sadly.
2. The interplay between scholarly basic research, industry and society.
3. The advisory function of academies, an area in which the KNAW has a great deal of experience through its collaboration with the Dutch government.
4. Multilingualism in the arts and humanities, a topic in which Austria lags behind the Netherlands, where an intensive debate on the significance of the national language has long been underway, given the dominance of English.
5. The academy beyond the capital, that is, the responsibility of national academies not only

to have a presence in the large capital cities, but also to ensure research or the dissemination of research findings in as broad an area as possible.

6. The impact of Digital Humanities.

The first Joint Academy Day was well attended by members and staff of the OeAW. The debates within the six panels demonstrated that scholarly societies can do even more than ever to help lend cohesion to a Europe in which scholarship is one of the centripetal and socially binding forces. Hence the OeAW thanks the KNAW for its efforts in jointly designing this discussion format.

PANEL 1

ETHICAL QUESTIONS REGARDING RESEARCH IN OR ABOUT AUTHORITARIAN REGIMES

Chair:

Florian Schwarz, OeAW

Panellists:

Sabine Ladstätter, OeAW

Melanie Malzahn, OeAW

Ernst Steinkellner, OeAW

Nico Schrijver, KNAW

INTRODUCTION

FLORIAN SCHWARZ

For research institutions and individual researchers, conducting research in or about authoritarian regimes involves specific ethical questions, such as how to safeguard ethical best practices when legal standards and regulations differ or even diverge, evaluating the impact of ethical considerations on the process of building and maintaining trust, or assessing specific personal risks for project participants. Public opinion tends to narrow the ethical dimension of this kind of research to the question of whether or not it is ethical to “collaborate with authoritarian regimes” at all. Research in or about authoritarian regimes is concerned with more than defining and safeguarding ethical red lines in research planning and practice. What is at stake is fundamental values of academic research and collaboration within the international scientific community.

This introduction is a quite personal take on the topic and points to some, but certainly not all – and perhaps not even the most important – potential perspectives on the ethical implications of conducting research in or about authoritarian regimes.

One of those foci is the role of institutions and individual researchers engaging in such research. Another is that of the complex societies in which those institutions and researchers are operating. And the third perspective considers the fundamental value of, and risks to, the freedom of scientific pursuit, which in my opinion is relevant to and inseparably connected with this question.

At this juncture, I will only add two small observations or questions I asked myself while preparing for this panel. First, does the way the topic of our panel has been formulated suggest a fundamental moral asymmetry that underlies scientific operation with, or work in, countries with authoritarian regimes? Here we cannot discuss the question as to what authoritarianism signifies, where it begins, and – perhaps more importantly for our question – whether authoritarian regimes automatically preclude the existence of an opinionated society and complex public discourse. So, by way of example, do we look at Iran as a black box of an authoritarian regime? Or do we see it as a society that is actually quite opinionated with a very complex public discourse in which our Iranian academic colleagues are actively participating?

What I want to put on the table here is the potential risk for an imprudent observer to assume that only our side, that is, that of researchers working in democratic societies, is dealing with potential ethical dilemmas. International scientific cooperation with partners in countries with authoritarian regimes is not a moral one-way street.

SABINE LADSTÄTTER

Archaeology is exposed to the spotlight of national discourse more frequently than many other scientific disciplines. Ultimately, this close intertwining with politics goes back to the phase of its foundation in the 19th century, from which cultural-imperialistic as well as nationalistic strands developed within archaeological research. As a consequence, politics nevertheless strove to manipulate archaeology in issues of legitimation and identity. This approach was based on the one hand on a claim to ownership of the archaeological monuments, and on the other hand on an interpretational sovereignty over cultural heritage.

Let’s start with the rather rational aspect. A precise geographic location

underlies field archaeology. Our find sites, including, of course, excavations, are always geo-referenced and therefore allocated according to the current world order in a defined national territory; they are “owned” by someone. Therefore, work at these sites is subject to the general legal conditions of the individual nation, and these must be complied with. Now to a rather more emotional and sometimes irrational aspect: the movement of soil shapes identities. When groups define their affiliation by blood and soil, and this is very often the case at differing levels of manifestation, then this soil and everything that is hidden in it constitutes a crucial element in establishing identity. For this reason, archaeologists and in particular foreigners, wherever they are, are often very carefully scrutinised by the politics and society of their respective host countries. This applies to democracies as much as it does to other authoritarian regimes, although in the latter it often has stronger consequences. The result is often a direct or indirect exertion of influence on research programmes and their implementation, yet also reactions against perceived unpopular research results, which can lead to the withdrawal of licenses

or prohibition of working at all. I will come to these examples later. A direct exertion of influence, for example, would be a correlation between the religious affiliation of the researcher and the research subject. In this way of thinking, Islamic monuments would not be consigned to, for example, Christians, or vice versa. The treatment of Christian monuments by scientists with a Christian background, in contrast, also very quickly runs the risk of being associated with hidden missionary activities. But on the other hand, we should not forget the debates on the restoration of Islamic monuments in the Balkans, funded by the Turkish government and conducted partly by Turkish professionals. In the discourse of post-colonial archaeology, therefore, a critical reappraisal of the imperialistic heritage of the discipline and a radical renunciation of traditional approaches is demanded. A bottom-up archaeology is confronted with the politically motivated top-down principle, with its strategic focus ultimately oriented towards civil society issues and engagement. Negative consequences of this community-based archaeology are nevertheless a regionalisation of research and an emphasis on the

local cultural heritage, which in turn involve the danger of dwarfing and political usurpation. It is precisely nationalistically authorised illiberal democracies and authoritarian regimes which use the post-colonial approach of archaeological research in order to deny it any form of internationalism. The completely valid moral and ethical concerns would ultimately serve a nationalisation of research and, indirectly by means of regulations and allocation of funds, a steering of the research questions. Indirect exertion of influence is frequently displayed by restriction or even prohibition of the application, or specific methods or analytical procedures. The most prominent example, of course, is aDNA research [ancient DNA, ed.], which due to the prohibition of implementation or sample-taking is already extremely limited in many countries. Their own aDNA labs are set up under national control, and the results are examined before publication. In this case, we also have to rethink our data sets, which very often depend on permits and accessibility. The reality of state-controlled laboratories nevertheless contradicts the demand for standards of quality, since there is no alternative to their use. It is in

precisely this delicate field of aDNA research, however, that well-considered interaction with data and its interpretation is required. Far too often, the interpretation is left to the geneticists, without juxtaposing the results, which at first glance are often unambiguous, with a complex cultural-historical reality. In the age of simple explanatory models, this might gain attention and “clicks”, yet the far-reaching consequences and the effect on politics and society should nevertheless be well thought through on the part of science. Ultimately, simplification and the adoption of zeitgeist trends run the risk of preparing the ground for political instrumentalisation.

For scientists working in such an environment, that means on the one hand walking a tightrope and on the other hand constantly weighing up ethical boundaries from both a scientific and a social perspective. Research programmes are co-determined by general conditions. Compromises and constraints are accepted or have to be accepted. The forced renunciation of analytical procedures hinders the exploitation of the total potential, and therefore involves the danger of methodological backwardness. This circumstance

in part sprouts grotesque flowers. For example, in Egypt, a country with exceptional conditions of preservation for organic find material, DNA and isotopic analysis are practically impossible or at least very, very difficult. The loss of knowledge is enormous, above all terms of awareness of what might be possible.

It is precisely research results with high social relevance that run the risk of becoming either politically instrumentalised or sanctioned. As a current example, we can cite the historian Patrick Geary, who is on the list of unwelcome scientists drawn up by the Hungarian government. His relationship to the Central European University and his pioneering, recently prominently published results regarding the identity of the Langobard people, unfortunately located in Hungary, were crucial to this decision. On the other side, there is no shortage of cheers of jubilation when it is discovered that direct genetic relationships can be proven at the regional level as far back as prehistory, as if the fact of established immobility alone almost represents a cultural seal of quality. The instrumentalisation of archaeological research has far more repercussions which are far more effective

as good publicity, particularly when the components of national pride and prestige are involved. Archaeological monuments are elevated to the rank of icons and are presented as such. Not infrequently, tourism and marketing come to the fore, although the urge to grandstand, in particular in authoritarian regimes, should nevertheless not be underestimated. In the final analysis this leads to the fact that when a political agenda is followed, interventions in excavation strategies occur. The excavation sites must be attractively designed and augmented by sensational finds. Scientific issues and sustainable conservation of the excavated material, in contrast, are pushed into the background.

Is research under such conditions actually still ethically defensible? Whereas official guidelines follow a national agenda, science creates a community which extends beyond national borders, hopefully, and follows its own ethical canon. Massive social upheavals, for example the denial or the removal of the theory of evolution from the educational canon, has caused entire disciplines to falter, including, of course, archaeology, and challenged their existence. Yet politically motivated allocation of funds also shakes the foundations of

free research. Only what is expedient is supported.

Ultimately, what should be the results from this debate, or what are my ideas? It is a dilemma which can only be countered by increased internationalisation as well as by the formation of research groups including colleagues from “difficult” countries, and by international research funding. Regionalised research ought not to be the answer to post-colonial remorse. To close my remarks, stay there as long as possible and support your colleagues as long as possible.

MELANIE MALZAHN

As a linguist and as dean of one of the largest humanities faculties, I believe that ethics is one of the most fundamental issues of research in the humanities. Today we focus on a particular aspect of ethics, namely research in connection with non-democratic, authoritarian states or even dictatorships. This affects both scholarly ethics and socio-political ethics. The most challenging aspects are whether researchers are allowed, or even obliged, to conduct research in or about such countries, to what extent they have to or are allowed to

compromise in their work and what this means for scholarly methods and society at large.

Gaining reliable data usually means engaging in fieldwork, conducting interviews and perusing archives, and good scholarly practice demands that these data are made accessible in the course of publication. When it comes to non-democratic regimes, gaining such data certainly means compromising with circumstances. This begins with gaining access to data and ends with the responsibility to protect one’s informants. Usually, experts in these sensitive fields are well-trained in gaining reliable data while avoiding ethical and political problems.

However, these ethical aspects not only concern research on non-democratic regimes as such. Often, research that seems to be of a non-political nature and content such as research on matters linguistic and philological are in fact also affected by the political environment, which holds e.g. for research on minority languages.

Certainly, one has to admit that there might be reason even for completely democratic governments to show some concern about minority language studies. In 1925, the Vienna professor of Indo-European linguistics

Paul Kretschmer boasted “Der *Nationalismus* des modernen Europa, d. h. das Bestreben aller, auch der kleinen Nationen, ihre Sprache und ihr Volkstum zu pflegen, es auch politisch zur Geltung zu bringen und womöglich durch einen eigenen Staat zu stützen, fand naturgemäß seine wissenschaftliche Grundlage in der indogermanischen Sprachwissenschaft, die die große Bedeutung der Sprache lehrte und ihre nationale Wertschätzung begründete” (Paul Kretschmer, *Die indogermanische Sprachwissenschaft. Eine Einführung für die Schule*, Göttingen 1925, p. 42). Although this was mostly opportunist hogwash uttered at a time when the follies of European nationalism were at their peak, there was a grain of truth in it: early in World War I, and later also in World War II, German linguists and philologists specialising in the field of Celtic studies tried to instigate rebellion in the Celtic-speaking parts of the populations of France and the United Kingdom; this has been amply documented in a well-researched monograph by Joachim Lerchenmüller, *“Keltischer Sprengstoff”. Eine wissenschaftsgeschichtliche Studie über die deutsche Keltologie von 1900 bis 1945*, Tübingen 1997. Oddly enough, in 1915 even the

Austrian Celtologist Julius Pokorny volunteered to compose “Aufrufe in irischer, cymrischer und gaelischer Sprache” meant to destabilise the United Kingdom (see Oskar E. Pfeiffer, “75 Jahre Institut für Sprachwissenschaft der Universität Wien – und wie es dazu kam“, *Die Sprache* 38/3 (1996[2001]), pp. 3-70, 21-24). Hence, linguists engaged in minority language studies should indeed act with special care and diplomatic tact.

Another sensible question is how to deal with fellow scholars who have to live and work in non-democratic environments. At first glance, one may feel inclined to seek contact with scholars known or suspected to be dissidents only, but this may turn out to be a fallacy.

First, not each and every dissident meets the standards of Western liberalism. For example, the Russia-born founding father of phonology Prince Nikolai Sergejevich Trubetzkoy had fled the totalitarian Soviet Union and was also strictly opposed to National Socialism, but promoted quite illiberal thoughts about a common Eurasian heritage which ultimately provided the basis to Aleksandr Dugin’s fascist Neo-Eurasianism.

Second, concentrating on dissident scholars and avoiding contact with

a regime’s favourite scholars may prove to be simply counterproductive, and may even help to isolate the dissident scholars in their home country.

Strangely enough, Stalin took great interest in theoretical linguistics, and for a long time promoted and held in highest esteem Nicholas Yakovlevich Marr’s “Japhetic theory” on the origin of language, which only fell into disgrace in 1950. Although in hindsight Marr’s “Japhetic theory” seems to have been merely bogus scholarship, this was not so clear in the 1930s and 1940s, and therefore it would have been quite unwise to boycott Soviet linguistics as a whole within this period. During Enver Hoxha’s dictatorship in Albania, Eqrem Çabej (who had earned his PhD in Vienna in 1933, having been a student of Paul Kretschmer and Norbert Jokl, see Eqrem Çabej, *Italoalbanische Studien. Wiener Dissertation aus dem Jahr 1933. Mit Beigaben von Oskar E. Pfeiffer und Joachim Matzinger hg. von Heiner Eichner und Joachim Matzinger, Wiesbaden 2017*) was the only Albanian linguist of international renown, and was indeed allowed to travel to Vienna, but only under the condition that he would be framed and escorted

by two state security agents (the one spying on the other) posing as (sham) scholars. Of course, it would have been quite counterproductive to insist that Çabej come to Vienna alone (i.e. without his two guardian angels and only with his family taken as hostages in Albania). In the GDR there were quite a lot of first-rate philologists, such as the Indologist Klaus Mylius and the philologist of Iranian (and eminent historian of Manichaeism) Werner Sundermann. However, in order to gain access to such luminaries, it was absolutely necessary for Western scholarship to also be in contact with not-so-bright darlings of the regime such as the classicist Johannes Irmscher, who was even made co-editor of the Italian classicist journal *Helikon*; after the “Wende” of 1989 it became evident that he had even acted as a “Stasi” informant, see Isolde Stark, “Die inoffizielle Tätigkeit von Johannes Irmscher für die Staatssicherheit der DDR”, *Hallische Beiträge zur Zeitgeschichte* 5 (1998) 46-71.

Finally, there is also the quite urgent question of how to react to the cuts to financial support for arts and sciences implemented by populist politicians – e.g. the newly elected President of Brazil Bolsonaro

announced the slashing of university funding by 30%. With respect to the sciences, perhaps joint protest efforts by international top scientists could help, but one wonders if protests by scholars of the humanities from other countries may not prove counterproductive; after all, it is quite typical of populists to denounce established academic disciplines such as sociology and gender studies as mere quackery. At any rate, it is certainly wise to heed the advice of the Romans to act “fortiter in re”, but also “suaviter in modo”.

ERNST STEINKELLNER

I’ll start with an apology. Of course, my experience that brought me onto this panel is limited. It is basically limited to the People’s Republic of China. And within it, to the Tibetan Autonomous Region. That already tells you how complicated it can be. To start with, I have to reveal something very personal, and that is: what do I consider to be ethical practice? I think throughout my life, I have been convinced that it consists in the wish not to harm living beings. Beyond my Catholic upbringing, that includes animals

and plants, although I’m not a vegetarian. That’s one thing.

The other issue is the question of more general importance that has already been mentioned. Is it ethical to collaborate with authoritarian regimes? Now, what do I see as authoritarian in the case of the People’s Republic of China? Historically speaking and with regard to the present, rules come from above in China. Originally it was heaven, personified by the emperor, and now it is called the people, personified by the Communist Party. Hence: why would we collaborate? My wife once said, “Your attempt to try to contact anybody within the PR of China reminds me of collaborating with the Nazi regime.” Which I took rather seriously, because my scholarly interest was asking for collaboration in one sense or another. To spell it out, my scholarly interest from the outset was in a treasure, one of the last treasures of humankind, of about 4,000 original palm-leaf and paper manuscripts that are still kept in Tibet, and I had been attempting to get access to these materials since the end of the so-called Cultural Revolution. That is, since the beginning of the 1980s.

How did I deal with the problem my wife raised, and subsequently with

the objections that were raised by my scholarly colleagues? At an early conference in the 1980s, I was able to invite the first Chinese Tibetologists to a conference, in Vienna. And that raised an incredible protest by my colleagues. How can you do that, collaborate with them? I was really a little bit in despair and, therefore, a short follow-up narrative: I had the chance to conduct an interview with His Holiness the Dalai Lama, and his answer was blunt. He said: except for the roughly 100,000 Tibetans in exile today after the 1959 exile, the Tibetans still live in Tibet. And if you want to approach them, you have to find the necessary ways.

Now, what was I confronted with? Not individuals, but Tibetan or Chinese members of various scholarly organisations, academies, universities, institutes and so forth. I realised quite quickly that any practical advance with regard to my scholarly object would need two things. First of all, I would have to know some of the people who deal with these objects. And second, and this I quickly realised, I would have to gain firm knowledge of the rules by which these people live. What are they allowed to do and what can they not do at all? If you don’t

know these rules, about which many of my colleagues never cared, you will never be successful. You will be met either with silence or disgust or fright.

If you do know these rules, you can get closer to your object by observing them. This is what I call ethical practice, the need not to ask questions that cannot be answered under these conditions, and so forth. In other words, if you don't harm those colleagues you want to work with by your detrimental approaches, then you might be successful. In fact, as it proved, I was quite successful, although it took me about two decades of approaching them. In 2004, our Academy was able to sign an agreement with the National Tibet Research Center in Beijing, with the aim of conducting common research on the manuscripts from Tibet. Luckily, and I'm proud to have a copy with me, in 2003 I was invited to give the Gonda Lecture at the Royal Netherlands Academy to present the history of this research and of the object, too.

This, by the way, is my last copy. It provides an initial survey of this collaborative approach. Basically, we have been very successful. I think the outcome of this cooperation, in which they allowed us access to cer-

tain selected items – we did the work, and they received the plaudits – was an international hit. And we had a chance to provide methodological training to some Chinese and Tibetan scholars who are actually conducting research on Sanskrit.

Thus far, I have stated my basic ideas of how to successfully cooperate. Our joint enterprise of publishing the results reached number 19 last year. We are quite proud of this, and those who cooperate with us in China are proud, too. Nobody has ever come to any harm because of this cooperation. Quite the contrary. However, there is no doubt that the rules laid down from above have always been kept in mind. If you try to counteract them, you are certainly going to fail. I think one of the aspects of our work somewhere in the world is, and I don't want to call it postcolonial activity, but it is bound up with the idea that we are here with our humanities research in order to help in some respect in areas where researchers are not able, for whatever reason, to develop their own humanities studies and their own interest in their own history in a way that would be scholarly acceptable. I think in this aspect, we can do a lot even from a small country. Just to

give you the Chinese example again: we have had only one centre of Sanskrit Studies at Peking University, which started with the then chair holder Ji Xian-lin, who lived to the age of 90 and became a hero in China, but studied in Germany, of course. Anyway – Peking was the only Sanskrit chair in China until after the Cultural Revolution. The Sanskritists educated there had no jobs outside of their own institution.

When I started infiltrating the Tibetan Institute in Beijing, I managed to persuade the institution to create jobs for two Sanskritists from Peking University. This interest in Sanskrit started to grow all of a sudden, and now there are five or six other institutions within Chinese universities that actually teach Sanskrit and do research. The strange thing about this situation is this: while we have an officially acknowledged cooperation agreement with the Tibetan National Research Institute, none of these other institutions at Chinese universities are in official direct contact with the same institute. That means that the new Sanskrit chairs have no access to any of those materials, except via Vienna. This is, indeed, a strange situation, but of course it relates to the practice of Chinese societies that consist of

small family groups limited by the walls around their houses. If you want to go outside, then you are in a foreign country, basically. You do not cooperate.

They have no access to their own material nationwide, so the only way you can help them to proceed with regard to their own material is via a foreign country. We mediate contacts between Hong Kong University and the Beijing institute and their material. Something that you have to digest before you believe it.

This kind of help is much more important than the work that we do ourselves even. I guess that this can probably be the nucleus for future development within the People's Republic too, although I see the situation for the humanities rather through a black lens, because the possibilities of digitalised control, particularly with regard to the humanities, seem to be increasing every day. That will be quite a catastrophe, I think, for many of us.

NICO SCHRIJVER

International cooperation, that also follows from the previous speaker, is really very important, as well as very

rewarding for nearly every academic. This morning, I was discussing with my delegation leader, Marc Groenhuijsen, how we are in a kind of nomadic business. He was recently in Japan. I will be in Korea next week. We are now here in Vienna, and in a way, that is nothing new. I read that there has been, for centuries already, academic exchange between Austria and the Netherlands. That really dates back to the 16th and 17th centuries. Famous examples include Erasmus and Spinoza.

Now, in the 21st century, you would hope that knowledge and democracy go hand in hand. However, reality often has it very differently. Therefore, we have to be alert. We have to be cautious, for two reasons. Firstly, history shows us that science can be abused. Scientific integrity can be violated. Research can be compromised. For the Netherlands, for example, it is always very embarrassing to realise that the roots of the Pakistani nuclear weapon capacity go back to the education and working experience of Abdul Khan during the 1970s in the Netherlands. His university training in the Netherlands and the supervision of his research enabled this highly qualified Pakistani nuclear scientist to gain a lot

of skills and knowledge. Ultimately, this was instrumental to constructing a nuclear weapon in first Pakistan and later in North Korea. We cannot be naïve. We are better off assessing risks in time and acting accordingly.

A second reason to be alert is that it is of course crucial for any researcher to be free, to be able to work and cooperate independently, without ulterior political or commercial motives. If that is not possible, it is better to conclude that we should not join forces. Therefore, scientists and scholars must be able to work in freedom so that science retains its critical and analytical value. Yet situations are often neither black nor white.

Often, we find ourselves in complex situations. Repressive regimes all too often place restrictions on academic freedom, violate human rights, and fail to observe cooperation agreements that provide academic freedom. However, we cannot just generalise. Specific situations can vary greatly. Tailor-made assessments and ad-hoc decisions are necessary. A regime may be in transition, and very often there is the phenomenon of two steps forward and one step backwards, but sometimes also two steps backwards and only one step forward.

For example, Ernst Steinkellner has already referred to China. Indeed, the question is often: should we or should we not cooperate with China? No doubt, China is an authoritarian regime, but China nowadays is no longer the China of Chairman Mao. And China is not North Korea. Rather, it has excellent academics. Some Chinese universities rank in the top hundred in the world. In my field, the field of peace, justice, and human rights, I have worked on a regular basis with Chinese institutions, including the Chinese Academy of Social Sciences.

In the beginning, of course, you have to compromise. You have to avoid the very term human rights. Then you use the term rule of law, or you refer to the principles of solidarity, equality, freedom and social justice, words which have currency in China. Ultimately, you can have a dialogue on human rights. Many Chinese academics have full access to all international publications, and increasingly also participate at that level.

At this stage, I would like to share with you that at the level of our Royal Netherlands Academy, in the context of our standing committee on the freedom of academic science, we have developed an analytical frame-

work to identify the risk level. At the outset, I should emphasise that there is no one-size-fits-all risk assessment procedure. Very often, each case requires a separate assessment, a separate approach. Nonetheless, we felt that it could be useful to have a kind of checklist and an analytical framework to assess risks.

In our report we identified three separate dimensions: the scope, the regime, and the impact involved in international scientific cooperation. As regards the scope: is the cooperation mainly at the level of an individual scholar, or rather at an institutional level? If so, is a university involved and is research exchange at stake? Or is it even on a national level, through national research institutes, in the context of often bilateral, or perhaps even multi-lateral cooperation agreements?

As for the second dimension, the regime: our report distinguishes three levels of potentially repressive or dubious regimes restricting scientific freedom. That is serious in itself, but the question is whether this is an isolated practice or part of a wider pattern of violation of human rights, or – the highest level of risk in our report – is there even a danger of military threats and political conflicts?

As regards the third and final dimension, our report assesses the impact, particularly the potential harmful effect of misuse of scientific knowledge. Once again, we distinguish three levels of such impact. Is it low, largely harmless, non-political?; or is there a moderate risk, in the sense that some research topics are simply excluded as being too sensitive? For example, relating to my field of research, human rights. Or is there even a high risk? Could there even be a serious threat to national or even international security, if the research results fell into the wrong hands? Dual use research is of concern here, for example with regard to unintended application for the development and production of biological and chemical weapons.

In sum, the combination of these three dimensions as well as the three levels of risks may provide an abstract toolkit for assessing the risks involved in international scientific cooperation.

My conclusions: international scientific cooperation is of great value. We should never forget that. However, we have to be cautious and alert. We should not be naïve. For example, I recently undertook a mission on behalf of the United Nations to assist

a rather authoritarian state in drafting rule of law legislation, another term for how to contribute to anchoring fundamental human rights in the law of the country concerned. Then of course you know that the people who are assigned to assist you, who serve as your translators in such a country, also have certain other instructions. Both the interpreter and I have to seek to cooperate as cautiously but also as efficiently and pleasantly as possible, in order for both of us to fulfil our tasks. It is better to be fully aware of this and to cope with it in the best way possible, but you can't be naïve about this. Consequently, we always better seek to assess the risk.

As we well know from cases in the past, such things are not so easy. The apartheid regime in South Africa could also continue for quite a while because of the support it received from Western countries. With respect to the communist regimes in Eastern Europe, I think it was a bit too simple to stipulate that we should cut off all links with the Soviet Union and the other communist states. Therefore, in the report of the Netherlands Academy we always look first of all to the scope of the scientific cooperation. Is it low-key among individual

researchers? If the cooperation is between institutes, it is already a bit more prominent. And then you may also put certain people in danger. However, when it is on an interstate level, then you have to be extremely careful that you don't run the risk of being used to legitimise a certain government policy.

Apart from this, in the Netherlands we also have the special case of contacts with Iran. Internationally, we had the very peculiar situation that for a while the United Nations Security Council sanctions on Iran included a "knowledge embargo" (see "Security Council Resolution 1737", 2006). The question arose whether or not universities should apply this knowledge embargo to each and every individual researcher, as the Netherlands demanded in the very beginning. However, in our rule of law society, individual victims and some university departments went to court over the matter also, stating that this knowledge embargo in itself constituted a fundamental violation of the right to movement, the right to academic freedom and the right to education. Our independent judges acceded to this view, since such a general and strict policy did in fact not follow directly from the bind-

ing "Security Council Resolution". Whereas as a university you can no longer have inter institutional cooperation, there is nothing wrong with training individual students of Iranian origin in a field not directly or indirectly relevant to nuclear-related fields. These people won their court case, and in 2010 the Dutch government had to amend its sanctions regulations with regard to Iran.

We can learn from these cases. We also better not pretend that Western countries are always much better than other parts of the world on all scores. Recently, we too have had marches for science in various capitals. Whereas this was prompted by the curtailment of academic freedom in the United States by the Trump administration, we know that there are certain tendencies in our own societies which also place severe constraints on full academic freedom, for example the various programmes of conditional financing of academic research.

Hopefully, the Dutch analytical framework with its three dimensions, scope, regime and impact, and its three levels of seriousness of risk may be helpful with respect to this purpose. However, and this is my final conclusion, we should always

realise that situations are complex, and a one-size-fits-all approach is never possible.

Therefore I would like to emphasise that you should think twice before you really stop any kind of scientific cooperation with authoritarian regimes. We have a responsibility to cooperate and to protect, in the sense that academic researchers in such countries often derive a lot of benefit from international scientific cooperation. To cut that off can be very detrimental for any hope of progress in those countries.

Authoritarian regimes are also often in a process of some change, sometimes experimenting with spring-type situations to become a bit less repressive without giving up their authoritarian state structure. You always keep personal contacts, and that can be multiplied. Such contacts can really have a beneficial effect, as long as you do it at a rather low-key level and don't allow yourself to be used to legitimise very authoritarian structures and oppressive scientific policies.

FLORIAN SCHWARZ ROUND-UP AND RÉSUMÉ

In a report on the website of the KNAW, "International Scientific Cooperation: Challenges and Precipitants; Options for Risk Assessment", as well as in the statement of Nico Schrijver, the importance of ethical awareness and the centrality of risk assessment when, or rather before, we engage in certain kinds of scientific cooperation is emphasised.

ETHICAL AWARENESS AND RISK ASSESSMENT

The question of raising ethical awareness for scientific cooperation may also be imagined more broadly. It may also go in the other direction, not just being aware of ethical implications of doing research in obviously problematic contexts, but also spotting where similar problems might arise in our own societies. I think we have been seeing a few alarming developments in democratic societies where not so long ago we would not have expected them.

Melanie Malzahn mentioned that the debate and discussion on ethical implications and risks of scientific cooperation is happening at the University of Vienna on a very broad

basis, involving many people who are not immediately concerned, in their everyday work, with the question of what to do in a specific case. What can academies contribute to this debate, to shaping awareness?

Raising ethical awareness, assessing risks, may have to go in different directions. As institutions, we have to consider whether we are putting someone in harm's way. Do we create potential future liabilities? This is of course a very central question. But I think some awareness is also necessary regarding the ethical implications of assessing and evaluating the potential risks of project proposals. This is one of the questions I put on my pre-circulated list of questions for the panellists, namely: what are the ethical implications for reviewers when assessing ethical risks in project proposals regarding research in or about authoritarian regimes? This might sound a bit cryptic, so let me try to be more concrete.

We are quite routinely confronted with reviewers' comments that say: wonderful project, but you cannot do research in that specific country. It's just too dangerous. There might be a conflict in the next five years. I think this is fair enough; one cannot expect every reviewer to have

enough information to assess such risks. But it may influence the chances of project proposals. Let's put it out there as a question – perhaps when we wrote the proposal, we did not do a good enough job in laying out where the chances and the risks lie?

GLOBAL ETHICAL STANDARDS

The clash between research standards – being different or even divergent – is a big issue in many scientific cooperation projects from the global north to the global south. In many cases, the very practical question of “what to do?” starts there. As Ernst Steinkellner said, to know the rules requires understanding the rules, but not necessarily always accepting them. So what can we do? I don't know. I'm definitely not in the field of stem cell research, where there are very different legal frameworks and rules in different countries. The temptation to play this diversity of ethical standards in certain fields may be very big.

Sometimes ethical awareness is not very visible with research partners. Also, this may not have anything to do with whether or not they are in an authoritarian state. Sometimes, awareness for conducting certain types of research, conducting archae-

ological research in a certain way, or doing oral history research in a certain way, is not necessarily linked to the political system but to the general awareness within academic communities. So perhaps we should even define this question a little broader at this point.

Just briefly, to underline the complexities, for example, in scientific cooperation with some countries in the Middle East. There are political and social forces that consider international cooperation to be dangerous; efforts to undermine cooperation are part of their arsenal. There's even a term for this, soft jihad. Limiting scientific cooperation thus may actually play into the hands of authoritarianism. Again, this cannot be overgeneralised, and I appreciate your emphasis on not overgeneralising, on looking at case-by-case studies of what we also do in our everyday research. I should think this can be a good model for continuing our endeavour: analyse specific cases and start from there, while trying to develop answers to very broad and general questions.

CONCLUSION

The topic of ethical questions regarding research in or about authoritarian

regimes raised issues and observations which can be arranged in two blocks. The first block concerns aspects of framing the problem, and the second what to know and what to do.

When trying to frame the problem, there was a sense (and the word was even used) of “inescapability”, just by virtue of the fact that one is working in certain places on certain topics with certain institutions that have to follow certain rules that might be different. Members of the panels who represented the practical side of humanities research in various Asian countries specifically pointed to cultural politics as a very important aspect that should not be underestimated. What kind of ethical issues might differing cultural perceptions, identity politics, etc., raise? This is one general aspect.

Another aspect is the relationship between awareness of ethical risks and upholding freedom of scientific pursuit in academic research.

Another point I took away from the discussion is that language matters very much, in a positive but potentially also in a problematic way. The example of the term “human rights” was mentioned by the panel. In some contexts of academic cooperation or

exchange it might open up possibilities for debate if instead of the term human rights one talks about rule of law. But do we really want to give up on the possibility of speaking about human rights?

A more general consideration concerns what one might call moral asymmetries. Does the theme of the panel generally imply that as researchers working in democratic societies we operate, and cooperate, on the basis of very strict ethical standards, unlike our potential cooperation partners in countries with authoritarian regimes? Is there a fundamental moral asymmetry? Or must we perhaps take the ethical assumptions and rules of the other side more seriously? Hence these are all general aspects framing the problem.

Second, what to know, what to do. There has been agreement that cooperation is very fundamental, but that we cannot be naïve about the risks involved. Risks need to be assessed every step of the way. Panellists placed strong emphasis on the importance of not overgeneralising, of raising awareness and enhancing practical wisdom. Training or responsibility of academic supervisors have great potential for raising awareness among fellow academics and espe-

cially younger researchers. But it is a more general societal question. On a more practical level, scientific cooperation has a lot to do with building trust, knowing and respecting rules in other societies, other countries that might not be really like the ones we are used to or what we would like to see. It is important to raise awareness among researchers, but also to raise informed awareness within institutions. It is not just about individual researchers, but about institutions.

Related to this is a theme that came up several times, namely research funding and the planning and evaluation of research projects, and the role ethical concerns might play at different points along the way, from designing a research project to the actual funding decisions. Sometimes, one can even observe a kind of self-censorship with respect to the kind of project one wants to submit or not submit in order to avoid any potential funding risks. It is therefore important to encourage more room for high-risk, high-gain proposals and projects in the humanities on the level of funding agencies.

It was also said several times, and I agree very much with this, that we should not overgeneralise, but look at specific cases, analyse the experi-

ences we gain from our daily work, and try to work from there. A report published by the Royal Netherlands Academy a few years ago about risk assessment in scientific cooperation could serve as a model for this approach. The report discusses very specific cases and then goes from there to a more abstract level, offering guidelines for risk assessment and raising awareness.

I hope this captures some of the major points that one might take away from our panel. I personally hope this is only a beginning, and that we continue working together across institutions on sharing and analysing concrete experiences and develop guidelines that might be helpful for many people and many institutions.

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SABINE LADSTÄTTER, OeAW, is Director of the Austrian Archaeological Institute of the Austrian Academy of Sciences. One of her principal research and institutional responsibilities is the excavations at Ephesos in Turkey.

MELANIE MALZAHN, OeAW, is Professor of Indo-European Studies at the University of Vienna, and currently dean of the Faculty of Philological and Cultural Studies. She has led major research projects and collaborative efforts on the study of Indo-European languages and manuscript cultures, especially Tocharian, in what is now Western China, very broadly speaking.

ERNST STEINKELLNER, OeAW, Professor Emeritus of Buddhist and Tibetan Studies at the University of Vienna. He is a specialist in the study of Buddhist logic, and served as Director of the Institute for the Cultural and Intellectual History of Asia of the Austrian Academy of Sciences from 1998 to 2006. During his tenure as Director he established cooperation with the China Tibetology Research Center (CTRC), Beijing, on the study of Sanskrit manuscripts.

NICO SCHRIJVER, KNAW, is Professor of international public law at the University of Leiden. His research interests include peace, security, dispute settlement, and human rights and the very real implications of his research are reflected in recent publications on topics such as counter-terrorism strategies, UN sanctions, sustainable development, global governance and justice.

PANEL 2

RESEARCH IMPACT (ACADEMY – UNIVERSITY – INDUSTRY – SOCIETY)

Chair:

Jürgen Eckert, OeAW

Panellists:

Richard van de Sanden, KNAW

Antal van den Bosch, KNAW

Andrea Fischer, OeAW

Josef Strobl, OeAW

INTRODUCTION

JÜRGEN ECKERT

The impact of research in universities and research organisations on transfer to industry and sustainable growth as well as on the education of young people and acceptance by the public is of the utmost importance for science and society. This also concerns strengthening activities aiming to overcome the often widespread public scepticism about science, research and technology and to improve the education of future generations.

Very often, the public does not recognise or understand the scientific activities performed at universities or non-university research institutions. This stems from the fact that scientific topics and questions are seldom easy for the public to understand, and also from the fact that the need for basic research in particular is not at all clear. Especially basic research is often regarded as more or less useless or as a mere playground for the curiosity of specialists without an outcome or broader impact on society and education. It is not clear how scientific research can promote transfer to industry and society and often research is misunderstood as efforts

for technology development focusing solely on specific problem-oriented topics, e.g. in the case of improving the properties of specific products. The long-standing drive for knowledge-generating basic research in order to pave the way to new insights and lines of thinking and with them its impact on the ever-evolving education of new ideas and ways to tackle problems is often either neglected or taken for granted. In a lot of cases, this leads to the expectation that basic research is just a waste of time, money and energy instead of being at the forefront of knowledge-gain and education.

Besides, there has been an ever-increasing trend in recent years to not really promote excellence in science and research, and to pave the way for new ground-breaking and perhaps unconventional ideas and scientific questions, but to rather limit science and research to a mere incremental improvement of already existing techniques, processes or products. Hence, very often, long-term innovation and originality are considered less important than fast and direct incremental optimisation of existing processes, products or lines of thinking, the claim being that only this will have an impact and be beneficial for society and the training of specialists.

Hence, creating awareness for the important role of basic science and research for long-term knowledge gain and education of young people as a highly important asset for the future development of society, technology and industry is essential in order to overcome this “research scepticism”.

Some important aspects that have to be considered along these lines are generally (but certainly not limited to):

- How to promote scientific and technological acceptance in the public and education?
- How to cope with new developments such as digitalisation, artificial intelligence, web-based communication, smart society and learning etc.? What are new challenges along these lines?
- How to further promote effective research transfer from academia to industry and education?
- How to implement new trends in science and technology as well as education?
- How to further promote international exchange and collaboration on all different levels?
- How can success in research be evaluated with respect to social relevance?

- Is freedom of science and research endangered by economic and political needs and requirements?
 - Is there a good balance between basic research and industry-related technology research? How is this reflected in national and international funding strategies?
 - Is scientific excellence measurable? How to judge the role of evaluation strategies, impact factors, publication records etc.?
 - How can sustainable development of young scientists be promoted and guaranteed, also considering new trends in work-life balance, gender equality etc.?
 - How to effectively cross-link different disciplines, i.e. natural sciences, engineering, humanities, social sciences?
 - How flexible is university education in coping with new trends and developments?
 - What is the role of science concerning sustainability, environmental and social challenges?
- Such questions were the basic platform for this panel. Whereas during the discussion numerous more specific questions emerged, which I will briefly sum up:
- How can we really get young people interested in science, how can we motivate them? Additionally: how can we make the importance of science clearer to politics? Basic research is more or less the foundation on which we build and implement technologies later on. What is the situation in the Netherlands? Is it similar? Is it different?
 - There is a trend in Austria to move further and further away from basic research in favour of mission-oriented science. You could also say application-driven optimisation rather than knowledge-driven innovation. Is this similar in the Netherlands and is there a discrepancy between the Academy in the Netherlands and the universities? Is the situation the same in different disciplines?
 - Did the creation of a National Research Agenda in the Netherlands change the acceptance of science in society? Or is it just a new way of distributing money? Who was involved in this process and what was the feedback? What was the outcome and what changed? Was this efficient for creating new ways of funding, interaction and awareness in industry, society and education?
 - Are there any borders between curiosity-driven science and application? And how is this anticipated in society, politics and education, including funding schemes?
 - How are essential scientific questions and important questions raised by society interlinked? Are the essential questions also linked back into education, with schools in any way? Is there some kind of feedback regarding what the needs are and does this impact school education in one way or the other?
 - Is there a broad scepticism towards science and intellectuality? Is there a division between people outside the scientific system and people inside?
 - Is education at school appropriate and at a timely level to motivate young children, maintain their curiosity and educate them properly for understanding the important role of aiming for new ideas as the driving force of innovation and the continuous development of society?

RICHARD VAN DE SANDEN

I think it already starts with the analysis of the assumption that you do basic research and then there is a pipeline. Basic research goes in and something comes out. That is usually no longer the case with most of the very big challenges. This usually involves communities of scientists, basic and applied, and the relevant (societal) stakeholders, who have to work together. So it is multidisciplinary in that sense. But also, it is not a linear phenomenon anymore. It is much more circular, in the sense that developments later on, at the somewhat higher TRL/SRL (technological/societal readiness) levels, if you will, feed on the fundamental science again. I think it is the first thing you have to realise. And that in my opinion makes the difference between basic research on one hand and the need to always justify yourself on the other hand less strict. Because I think there is much more connection between what we call engineering or applied sciences and basic research. The one you can put in the spectrum of explorative research, and the other, I would say, is goal-oriented research. How do we do this in the Netherlands? I think within science funding

in the Netherlands there is currently on one hand a big development towards fostering the curiosity-driven research by means of talent programmes, open competition and also by programmes surrounding the National Research Agenda which was written a couple of years ago by the full scientific community.

On the other hand, similar to what happens in Europe, I think there is a more mission-oriented approach now surrounding, let us say, societal challenges. And that already feeds into trying to make the connection with society. Of course, we also have all these events such as open days etc. But another important thing is that the president of our Royal Academy, not the one we have now but his predecessor, appeared on television in very popular shows which immediately brought science to the forefront. I do not know whether this is some ingredient for discussion, but I think I would hesitate to position the Royal Academy really at the forefront of basic research. I think the Netherlands are actually increasingly moving away from that concept. Of course, there is the Learned Society, but whether it is only basic research remains to be seen. And it is certainly not true for, I think, the institutes we

have within the Royal Academy. As you know, we also have institutes within the Dutch Science Foundation. There is a difference. The component of engineering is also very highly valued.

In my opinion, there is still a lot of attention to curiosity-driven research, or you could say purely scientifically motivated research in the Netherlands. But there is a big push from politics, the political scene, to actually also work on societal challenges, and I think you also have to involve my colleagues a little bit. There may be a difference, I think, in the way this is viewed by the humanities versus the science division of the Royal Academy. But I think overall these are also some of the complaints within the scientific community.

I do not think there is a contrast between curiosity and some of the societal challenges we have. Think about solving the energy problem, solving the climate challenge. There is a lot of explorative research that remains necessary to actually make that happen. And I sometimes think serendipity is overrated. If you look around, and consider how we actually came from where we were to here, there were a couple of very big breakthroughs. That is for sure.

But most of our developments, what we have in our boxes, is because of research of the goal-oriented kind, and for example, resulting in an engineering solution as an iPhone. We sometimes overrate serendipity. It is very easy to reflect and to argue basic research from the point of view “see, it actually gave us the Internet”. But there are many, many, other solutions in society which did not actually start that way.

I was the chair of the committee that was asked by the minister to advise on research impact. The wording was: “what is the societal and economic impact of research done within the Netherlands?”. As a committee, we immediately took away the economic impact, because we thought economic impact is also societal impact. It is just a different domain. But it is one of the domains where you can have an impact. If you think about education, where you have an impact by doing science, you can also consider that culture could have an impact within regional science. So we basically looked at the societal impact of research.

Of course, there is a big effort now to measure citation indexes, impact factors of journals etc. We basically put on the table that it is much bet-

ter to actually work with narratives, to actually see what the outcome of some of that research which has been done is, and also to compare it, and that is usually what is actually not done, despite what was promised. And so you have the ex-ante and the ex-post analysis. Ex-post usually is very good. It is reasonably easy to see the impact of a cluster of research projects, programmes, institutes or regional activities in terms of, let us say, high-tech campuses or whatever. Because you can actually measure this in terms of the number of jobs that has increased.

But one very big warning of the committee was actually not to look for these indicators, because indicators usually mean that there is a danger of introducing the gaming aspect. Because what are you going to do? You are going to actually increase the number of publications, and sometimes, the content of the publication does not matter anymore, because it is about the number. And so we really warned the minister, because she basically asked the committee, can you give indicators? Or, how can we measure impact? And how can we do that ex-ante? That is, at the outset of the research. Or, how should we distribute the money based on

ex-ante, let us say, statements within these projects or programmes. We actually warned that it is much better to look for successful societal impact than to ask what a group of researchers thinks. And that this group of researchers also involves the stakeholders. Does it involve the societal partners who should be there? Because what is usually seen is that if you have all of these already involved in defining the projects or programmes, there is much more chance of success, i.e. of having an impact. That actually comes out of several studies. We advised caution concerning real indicators, although in some cases, you can use them, but be wary, because there are very big examples, for instance in the UK, where they have this REF system [Research Excellence Framework, ed.], which is totally metrics-based. And maybe some of us, in some communities, what you see is that there is a lot of gaming going on to actually achieve the metrics. Sometimes, you could ask yourself the question, okay, but why are you doing it? And then the answer usually is, because this brings us up in the rankings, because the finances, of course, are coupled to that. So we really warned the minister not to go down that path, but to

really look at the narratives, but also, to periodically compare what was promised ex-ante with the project/ programme results, and then to learn from that.

In the Netherlands, we have what are known as economic top sectors, and they actually pay for particular and rather rigorously defined research areas like Agri-Food, Chemistry, Energy, Life Sciences and Health. And they are very influential. So industries put 50% on the table to finance projects. And that basically meant that it wasn't the best projects that were chosen. Everybody realises that. That is why we are now actually making a move towards more mission-oriented programming, which is much more long-term. So this top sector policy is actually involved in projects which were only very small and short-term and had a duration of only two years.

So certainly, the advice which is given to the ministers is not about economic impact in that sense. It is certainly also about other aspects, for instance, the development of medical research, where you see different stages of impact, which eventually, for instance in the case of a childhood disease, could result in fewer child deaths in 20, 25 years later. Impact,

and this is another thing which politicians have to learn, is not something that occurs overnight; usually there is a long-term scale before there is a real societal impact of a programme/ project which was executed, say, 20 or 25 years ago. So we actually stayed away from that very point. Therefore, the advice that was given was not only about economic impact, but also about broader societal impacts of research including for example language studies.

ANTAL VAN DEN BOSCH

There is not such a great difference, I would say, in the way that the political directions have influenced us all. I would like to come back to the process carried out nationally by the entire knowledge coalition to set up the National Research Agenda mentioned in the introduction. In this process, everyone, literally everyone, was consulted; a website was opened to submit questions. More than 10,000 questions about science were crowd-sourced. Some questions came from scientists, who could also enter, but mainly from the broader public. The 10,000+ questions were winnowed down to 141 questions,

which were further clustered into 25 routes, many of which directly represent societal challenges, but not all. Some of the 141 questions were of the type "what is darkness? What is dark energy?", suggesting a curiosity-driven type of research. These questions did end up in one of the more fundamental 25 routes. And the first rounds of the National Research Agenda are open.

Before that, there already were the top sectors. Both were big, politically driven science funding initiatives that really shook us up in the sense of distribution of finances, time spent on suddenly building large consortia; multidisciplinary, involving industry, involving societal parties. This also goes for the humanities. The humanities have perhaps had some trouble finding industry partners, but there are a lot of societal partners out there who are not directly into economic value making but cultural value making, creating values that we cherish as a society.

Then to stress this idea of narrative mentioned by Richard van de Sanden. What we see in the Netherlands is that every research institution writes self-evaluations according to a standard evaluation protocol in the Netherlands, in the

form of narratives. There are tables in there, certainly. How many people do you have, external, internal funding, etc. Yet almost all of it, 15 pages, or more, is narrative. In every field, there is a different story to tell. This helps the humanities explain what impact means in their field. In these narratives, we all define what impact is in our field, in our institute.

ANDREA FISCHER

I would like to refer to this open call for research questions. 10,000 people out there are burning for answers to their questions now. You might be measured by the quality of the answers. Not every answer we have as scientists may immediately make sense to the people. Some translation process is needed to let the value of the answer emerge. So what is our strategy for getting these answers across to the public, the people? 5% of the budget used for communication with the public [as discussed earlier, ed.] is not too much considering that a citizen, for example, would pose a personal question like this: will I lose my house because of rising sea levels? Then this question is transformed into a larger scien-

tific workaround, modelling the rise in sea level, but not for the specific location the citizen asked for. So the answer given might not be really straightforward enough to have an outcome for the people with 5% of the budget only for communication.

JOSEF STROBL

One of the standard metrics currently being used for the economy, for the business segment of society: are businesses and enterprises prepared to co-fund certain research initiatives? That in and of itself raises many questions, but sometimes we use a metric like: “Is 50/50 co-funding being contributed by an economic entity?” If so, that is a kind of measurement for meeting current demand, and then national or other funding agencies are prepared to contribute the balance. This makes more sense in some disciplines than others. This works better in some fields than others. My background is originally Geography and now Geoinformatics. Starting from the impact and weight of science, its effects and outcomes, we are used to talking about impact in the publication domain. Looking at the impact of research and education

– and I definitely would like to look at both these pillars – a field of study has on the economy and the development of a region, then we would actually need impact indicators assessing where graduates are going. For instance, in our doctoral programme, we look at people who follow an academic career track. Over the years, I have noticed that fewer graduates pursue academic careers, more and more go into industry. This impact we actually rarely measure, because it is not a metric that we get recognition for. We currently have no indicators, no systematic, no comparable indicators of the impact we have, as disciplines, as organisational entities, on economic and regional development. And that would be something I would definitely be interested in exploring one day. With regard to the motivation of students, well for me it means stimulating and maintaining curiosity. We introduce students to questions and interesting topics they are really keen to explore. From curiosity, a kind of passion to work in a specific field emerges. Therefore, in the beginning, we offer students the opportunity to look into various fields, to find out what field they are most curious about. Then sometimes they forget

the hour, and the day, because it is exactly what they want to do - adding purpose to life. Students might proceed from one interesting topic to another, and some really get hooked on a topic. It may be different to what they originally had aimed at in their studies. When studying engineering, some move to applications in medicine. And out of the curiosity of the students, and fostering that, by offering interesting challenges, we end up generating new knowledge. And a new scientist.

So first of all, we have to ignite the flame inside a student, and when a student is really burning for a new topic, they might carry this flame to others. But we really have to set a spark generating interest. And with some students, we are lucky, we can ignite that spark. With others, it does not work that well. Success very much depends on if we've had the chance to push a student to fields aligned with their intrinsic motivation.

CONCLUSION

JÜRGEN ECKERT

The topic of this panel was research impact. So the questions asked and discussed during the panel were

related to how research is structured, disseminated and noticed with respect to science activities in the academies, at universities, in industry; what acceptance there is for research in society and public awareness, and also whether there is any feedback into education at school. This also included topics such as how to maintain and foster scientific curiosity and raise awareness for new ideas and science-driven topics in school in order to properly educate the next generation. Another important topic was how funding is managed and triggered through the different funding organisations and through different funding schemes in both countries. This also included questions such as how research agendas are defined and what the impact of strategic research measures on science and education is.

It turned out during the very lively discussion that the problems related to this complex are very similar in the Netherlands and in Austria. However, they are treated a bit differently. In the Netherlands, the discussion about how to evaluate research, how to follow societal changes, and how to follow the big issues in society are treated a little differently. There, a research agenda was created in

a bottom-up approach, including anticipated needs for science and development from different parts of society and research institutions. This was counter-blended with a top-down approach initiated through funding organisations, for instance to finally create suitable research agendas satisfying both the open needs of society and due to the need to cope with emerging trends and timely innovations. This kind of open discussion apparently proved to be very helpful and efficient, in particular since it also included public opinion concerning questions such as what interesting topics may be and how they should be tackled. This approach led to fruitful discussions and cross-linking with scientists and thus increased public awareness as well as acceptance of science and research. It also had direct impact on funding schemes and research topics. Such an approach may also be worth considering in Austria.

The other main part of the discussion centred on questions such as how research is accepted in society and how science is cross-linked with education. What can be done to improve teaching, not just on a general level, but also with respect to initiating and maintaining scientific curiosity

from a young age so as to keep the curiosity and open-minded spirit of young children alive and transform it into interest in science, in the natural sciences and engineering, all the way to the life sciences and the humanities. There was consensus that this should not only be introduced to schools and universities, but that Academies too have to take part in this actively and try to promote it as much as possible – of course, in close interaction with schools and universities. It became very clear during the panel's discussions that scientific curiosity is one of the main driving forces for developing education and active involvement in research, but also the key to cross-linking science and research with public awareness and the needs of society. Being open-minded and curious is crucial for new approaches and findings and thus has to be actively supported from a young age through appropriate school and university education. But Academies can and should also play a vital role in that area. There was a general agreement that this is vital, also in the light of the existing deficits in schools, and that one could perhaps pursue this further and do more than just holding open days or inviting schoolteachers to

research institutes etc. We found this a very important point that should be promoted and further developed in future. Perhaps in the long-term one can think a little bit more about what one could do to become more active in this respect as an Academy.

There were of course also intense discussions about where the balance lies and should lie between basic research, applied research, and technology-driven research – including in the context of societal needs and expectations. In this complex of topics there seems to be no big discrepancy between the Netherlands and Austria. Both basic and applied research are equally important, and there is no way of separating these different aspects in order to place more emphasis on one or the other direction. There was a large consensus on that, also in the sense that scientific research has to satisfy both the needs of continuous technological development and those of society. Without that, there will be no acceptance of the need for scientific research in society. It seems that the scepticism about science or fear of new developments is a little bit less pronounced in the Netherlands than in Austria, where the need for research seems to be less accepted by the public than in

the Netherlands. These differences may be related to the specific characteristics of Dutch and Austrian traditions and societies, which may be a little different based on history, culture and economic needs.

Overall, the panel discussion proved to be very fruitful and intense, and provided several points where we can mutually learn from each other. Trying to be open to the public and to innovative ideas and approaches could be one way to further strengthen the role of the Austrian Academy of Sciences in this complex area. This may also open new avenues for different activities in the future. One idea may be to involve the Young Academy more actively in promoting scientific outreach – especially when it comes to getting children and young people interested and involved in science and research. Going to schools and trying to motivate young people are essential points, because that is basically the future of all of us.

JÜRGEN ECKERT, OeAW, is chair of Materials Physics at Montanuniversität Leoben, Styria, and Director of the Erich Schmid Institute of Materials Science (ESI) of the Austrian Academy of Sciences, also located in Leoben. The institute's research currently focuses on Structural and Functional Materials, Materials for Information Technology, Materials for Energy and High Temperature Applications, Materials for Biomedical Applications and novel Bulk Nanocrystalline and Amorphous Materials.

RICHARD VAN DE SANDEN, KNAW, Director of the Dutch Institute for Fundamental Energy Research (DIFFER) and Professor at Eindhoven University of Technology. Throughout his career, van de Sanden has striven to make the connection between fundamental research and practical applications. His research has focused on understanding the physical and chemical processes in plasmas, with applications in e.g. innovative production methods for PV solar cells.

ANTAL VAN DEN BOSCH, KNAW, Professor of Language and Speech Technology at Radboud University Nijmegen and Director of the KNAW Meertens Research Institute of the Diversity of Language and Culture in the Netherlands. His research focuses on machine learning and language technology. One recent example project was Netherlab, bringing together huge numbers of digitised Dutch texts from the Middle Ages to the present day.

ANDREA FISCHER, OeAW, is Interim Director of the Institute for Interdisciplinary Mountain Research at the OeAW in Innsbruck. Her research areas are Geosciences, Glaciology, Climatology, Hydrology, Physical Geography and General Geophysics.

JOSEF STROBL, OeAW, is chair of the Commission for Geographic Information Science (GIScience) with research areas such as Environmental Engineering, Applied Geosciences, Geoinformatics, Remote Sensing, Information Systems, Cartography and Applied Geography.

PANEL 3

ADVISORY FUNCTION OF ACADEMIES

Chair:

Gerda Falkner, OeAW

Panellists:

Louise Vet, KNAW

Manfred Grasserbauer, OeAW

Alexia Fürnkranz-Prskawetz, OeAW

Michael Nentwich, OeAW

INTRODUCTION

GERDA FALKNER

One of the crucial roles of academies of sciences is to advise political leaders, other stakeholders and society at large. Topics often concern specific policy-related issues (e.g. how to combat global warming) or matters of ethics in research and beyond (e.g. helping with setting up or managing committees that inquire into alleged offences against good practices). However, it is anything but trivial to develop standard procedures to promote advice that is both legitimate and effective — hence the great variety of such standards all over the world.

In overall terms, advisory functions are a highly complex matter, and in some places and at some times they are even a controversial issue. So, what procedural rules, for example in the internal proceedings of academies of sciences, do exist? What are our experiences in the two countries assembled here today for the “Joint Academy Day”? How could we possibly further improve our practices? All of this is a very suitable topic for exchange in our group today and I consider it a truly worthy task for this first Academy Day.

I will first pose three questions to our members on the panel, and then we will open up and have a frank discussion with our high-level audience. The three questions are:

- What are your personal experiences in advisory functions?
- What is the current practice in your home institution, and the relevant discourse?
- What do you believe is actually the best practice in executing advisory functions, on a global level?

LOUISE VET

You request my personal experience with advisory functions. Well, I often state that Ecology is the science of the 21st century. Not because I happen to be an ecologist but for the very reason that if we want to live with 10 billion people on this planet, we have to fit our economy in with that of the planet. After all, for more than 3.8 billion years our planet functioned well without us so we can learn from this to turn our environmentally destructive economy in one of symbiosis between ecology and economy. This gives me, as an ecologist who is aware of the facts, a certain responsibility. I therefore certainly want to

be involved in advising our policy-makers, both in the Netherlands and on the European level.

I consider “science for policy” an important task for any academy and it can be implemented in a variety of ways. In the Netherlands, I serve on governmental advisory boards and committees, and I talk to politicians and members of parliament. As academy members we have breakfast sessions with parliament members, using simple written fact sheets and conversations to inform and actually advise them on particular scientific developments that we think are important for their policy, e.g. on climate, circular economy, agro-ecological practice, nature conservation etc. I was also co-author of a new type of academy advice, a short KNAW position paper on “Biofuel and Wood as an Energy Source”, which received a lot of scientific, public and political attention.

My personal “science for policy” goal is to advise politicians on ecological principles and their importance for achieving a sustainable economy and society. An important present activity concerns the battle against the loss of biodiversity. The current strategy to stop biodiversity loss has produced inadequate results, despite many

years of effort by numerous land users. For that reason, as an academy member and chair of the Netherlands Ecological Research Network, I brought together farmers' organisations, food supply chain partners, researchers, nature and environmental organisations and a bank to join forces – for the first time – to reverse biodiversity loss in the Netherlands and embark on the road to recovery. After all, restoring the variety of species, ecosystems and landscapes is important for a richer nature, as well as forming the foundation of sustainable food production, our health and prosperity. This – ongoing – initiative and our intensified contact with policy makers has already influenced the government (both national and provincial), shown e.g. by the memorandum "Agriculture, nature and food: valuable and connected" presented by the Minister of Agriculture, Nature and Food Quality in September 2018.

On the European level, I am involved in the EASAC Environmental Steering Panel, which advises the European Commission. We have produced some excellent reports, for example on "Ecosystem services, agriculture and neonicotinoids", and on "Multi-functionality and sustain-

ability in the European Union's forests". The Dutch Academy took the lead in the report on "Opportunities for soil sustainability in Europe". Such reports, bringing together the latest scientific knowledge, can also be very strong instruments on the national level, especially when we actively invest in communication and media attention.

On the level of the Academy, the Academy's advisory role is defined by law. It may offer solicited and unsolicited advice concerning both "science for policy" and "policy for science". In the case of commissioned advice, it is usually a minister or state secretary (for Education, Culture and Science or another ministry) who makes the request. Nevertheless, other external parties may also approach the Academy for advice. In the case of unsolicited advice, the Academy produces the advisory report proactively. Advisory reports may vary from a brief advisory memorandum taking only a few months to produce to lengthy advisory reports consisting of several sub-reports that take more than a year to complete. The KNAW has clear-cut rules for producing their advisory reports, safeguarding a thorough procedure and quality assurance. By adhering

to a code of conduct relating to conflicts of interest and by performing peer reviews of the reports, the Academy ensures the independence of the committee members and the quality of the advisory report.

There is also the issue of scientific debate versus non-scientific debate. For example concerning the climate. With regard to my own institution (the Netherlands Institute of Ecology, a KNAW institute), we have a societal value strategy which is aimed at three branches. One is industry and business, another is policy on all levels, which could be international, national, or even provincial. And the third is outreach to the general public.

I consider the latter to be very important. There is a lot of ecological illiteracy, not only among the general public but also among politicians. In fact, the scientific knowledge in Parliament is a pretty sad state of affairs. We really have to educate from the bottom up, as we say. So, we try to present the facts and show the great value of fundamental research and technology transfer, and we do so in many ways, by producing complex papers and press releases, expressing difficult material in simple language and letting people experience it by

showing and even involving them in research (citizen science). Today it is more important than ever to have a strong section for PR and science communication.

However, scientific debates are often not exactly helpful to improve the reputation of research in society, because they seem rather confusing. Politicians usually ask us for a definitive statement and by that they mean 100% certainty and we can only assume 80%, which means there are still 20% uncertainty. There is already a scientific debate about these 80 versus 20. I find that very exciting, but it is also a difficult issue for the outside world, and what we can do as an Academy or as a group of scientists. We don't want to be activists. We want to base our statements on solid science. Science is increasingly seen as "only an opinion" and trust in science is decreasing; we see it with vaccination, for example – that is really scary, but ...

Then again, you don't want to be an activist, but sometimes you almost can't avoid it. It's this grey area in the middle. So, that's my personal and institutional struggle. How to advise policy when the discussion between the scientists themselves is still ongoing?

"Policy for science" is an incredibly important thing too, like setting the science agenda to influence where the money for research is allocated. In the Netherlands, the top sectors are paying for a lot of rigorously defined research [see also Panel 2, ed.]. Hence, it is important that you have stakeholders and that you are in close contact with these industries, in the case of companies that you are in dialogue with them, because basically, in the Netherlands, Shell is closer to the government than our Academy, our National Science Foundation or collaborating universities. The world is the way it is, and I think the importance of joining the triangle of science, industries and policy is crucial right from the outset. As with "science for policy", personal contacts are crucial, too. Perhaps we can learn from England, where the Royal Society can directly advise the Prime Minister. As I mentioned earlier, I think we really have good contacts in the Netherlands. Then, when you present advice, it is not just a paper, but you get a dialogue, which is decisive if we are to have real influence. Therefore, for both "science for policy" and "policy for science", you need important stakeholders, and you need to invest in this triangle.

As I mentioned above with regard to academy advice, a proper review process is indeed crucial. The KNAW has clear rules to ensure the independence of the members that give their opinion and the quality of their advice. But it remains a difficult issue for all scientists that are involved in hot societal debates in which scientific data can be deliberately misinterpreted. We experience this on a daily basis with environmental issues.

MANFRED GRASSERBAUER

I actually have two types of background in this area. The more important one is that I was director at the European Commission's Joint Research Centre, where our job was to provide scientific advice for policymakers. We produced several hundred documents per year for the European Commission. The second position is as chair of the Academy's Commission on Climate and Air Quality. There, we have a situation in which practically everything of importance is happening on the European level. Since the Treaty of Amsterdam, environmental quality and climate policy have been a European matter. Therefore, the previous

task of this commission, namely to help the government set up emission limits, has almost ceased, because this is all done in Brussels. Now we collaborate in various groups in Brussels, in expert groups such as NOX, particularly when it comes to selecting criteria for developing legislation. Part of our work now is however, also focused on the national level, for example trying to support our scientists and policymakers in the implementation of EU laws.

We have conducted and are conducting scientific studies on air pollution. One of the main studies was unfortunately completely useless. This was on the effect of smoking in restaurants. 2017, the government decided to stop enacting legislation on banning smoking in such places. We had done many press conferences, workshops etc. pointing to the health risks. This clearly shows you the gap between scientific evidence and political action.

We are facing a big new challenge now in respect to climate change. Our experts are providing important scientific input for policymaking. The main channel is the National Committee for Climate Protection (“Nationales Klimaschutzkomitee”), which advises the Austrian govern-

ment. In addition, we are providing contributions to the Climate Change Centre Austria, which deals with scientific and technical issues of climate change in Austria, e.g. the effect of climate change on health in Austria. This is direct input for policymakers, I would say.

Besides, the Commission on Climate and Air Quality addresses problems in areas where there is no EU regulation, such as odours. If you have ever lived near a big pig farm, then you know what I am talking about. Hence, we try to develop criteria for assessing odours and perhaps to come up at some stage with a proposal for regulation.

HOW IS EXPERTISE OFFERED?

That is a very good question. I think the academies have very limited resources for policy advice compared to a big institution dedicated to providing science for policymaking, such as the Joint Research Centre of the European Commission with close to 3,000 staff. In addition, the JRC has the financial means to collaborate very closely with many national expert groups. For example, the “Water Framework Directive” was developed with the help of a network of 2,000 scientists from all EU member states.

At the academies, we have on the one hand institutes, which have an institutional task and the budget for providing policy advice. On the other hand, there are commissions, which I am representing here, composed of high-level and respected scientists who do this work beside their normal occupational duties, more or less as a hobby. This means that the volume of the work is limited and necessarily focused on specific tasks. Therefore, the whole impact is quite limited, compared to other institutions. We have to pick very specific items, which are of interest and about which there is possibly high public awareness, and both things are not always easy to achieve.

What is an important feature of academic advice, however, is that it must be absolutely serious, scientifically solidly grounded and totally unbiased. A great deal of scientific advice we are encountering these days is quite biased, in one way or another, reflecting the personal opinion and position of the scientist. Climate change is a very good area in which to discuss that, but also many social and socio-economic issues. Being unbiased and unbribable must be and usually is a strength of the Academy.

As long as we can do our work as a hobby, as long as we are not dependent on interest-guided financing, we can afford this. Independence is the key!

A year ago, I would have agreed that the British model is perhaps the model. I wonder where they were with their advice when the government ran into issues with Brexit. Nowhere?

A second point. Once I was extremely enthusiastic about the American system. Now I wonder how the National Academy has been trying to advise Donald Trump on government issues?

I think that one of the biggest achievements we have made in Europe is that the Juncker Commission set up a scientific advisory group, which linked directly to the academies. Today much of the legislation relevant for the citizens is passed at the European level. Even the science agenda is set at the European level, e.g. through Horizon 2020. I think the main priority for us in Europe must be to link the enormous expertise present in the academies with the European policy-making process.

Juncker has set up a scientific advice mechanism with a management unit in the Directorate General for

Research connecting the Commission's own Joint Research Centre with the National Academies and other expert groups. Together they have enormous potential to provide relevant advice for the development, formulation and implementation of EU policies.

There are enough problems where such an approach could be very useful. For example, to develop a concept for sustainable mobility for the future. CO2 emissions from road traffic will have to be reduced drastically. The current decision of the European Council says that by 2030 the average consumption of the fleet of a carmaker must be less than four litres per hundred kilometres, just to give you an example of what lies ahead of us. I think this is one of the most important decisions made in recent years because it may have a big impact on the industrial structure of Europe. This is an enormous chance for the academies to produce really significant science advice for policymakers.

On behalf of political statements from the Academy, I think the academies must be very prudent there. The decision here is not only a scientific matter but also clearly a political decision. And this is something the

Academy must stay out of, in my opinion.

Furthermore, it is extremely important that any advice from the Academy cannot be a personal opinion of a member. It must be accepted by a body, by a commission, by an institute, whatever, by the presidency of the Academy.

Unfortunately, it happens quite often that studies performed by an individual scientist – often under contract with a specific interest group – are sold as institutional statements, e.g. as a study of a certain university. Therefore, the Academy has to be really, really tough in enforcing that. Any private opinion of a member of the Academy is a private opinion. The opinion of the Academy's only there if it has a real stamp of the Academy.

ALEXIA FÜRNKRANZ-PRSKAWETZ

In recent years, I have worked particularly in the field of population economics with a focus on the economic consequences of individual and population aging, a topic that is very high on the agenda today in Europe but also in Asia (e.g. Japan). Allow me to mention some of the institutions where I had the feeling

that we had some sort of advisory function, and I'll begin with the European Union.

Within the framework of research calls of the European Commission, Employment, Social Affairs and Equal Opportunities DG we worked on two reports: "The Impact of Ageing on Innovation and Productivity Growth in Europe"¹ and "The Relationship Between Demographic Change and Economic Growth in the EU"². Both projects were based on collaboration with colleagues in Sweden and we had the opportunity to present and discuss our findings in Brussels at DG Employment.

Another example of the advisory functions of academies is scientific commissions as set up by the Leopoldina in Germany. I am a member of the Commission on Demographic Change³ and participated in the study on "The Future with

Children".⁴ I am happy to say that our report – including a brochure on myths, key results and recommendations on fertility and societal development – was presented to the public in various press conferences not only in Germany but also in Austria. Indeed, we had a press conference here in this room. Communicating research is of key importance for academies. The public relations office of the Austrian Academy of Sciences offers great support in this regard. Our goal should be to give advice based strictly on our scientific research. How far our scientific results will be taken up is not our decision but it is our decision to inform the public and policy makers about our findings.

I would like to mention another very efficient set-up for communicating our research, Population Europe⁵, a network of Europe's leading demographic research centres with the aim to inform colleagues, the public and policy makers on important research findings that also provides online information on a wide area of demographic topics. Population Europe

also coordinates press releases and press conferences and supports workshops and conferences, etc. My personal attitude on the advisory role of academies is that we should not wait to be asked about our research – indeed, we should be proactive and communicate our research findings. In this regard, networks like the topical working groups of Leopoldina or Population Europe are extremely efficient.

Another excellent example is the Joint Academy Statement on "Mastering Demographic Change",⁶ in which eight European academies have been involved. The statement was coordinated by ALLEA (All European Academies of Sciences Union). The Austrian Academy of Sciences organised a press conference at which the report was introduced and discussed. Most importantly, such statements have to be very concise and understandable and based on scientific research and findings.

I am also very proud to be a member of two commissions at the Austrian Academy of Sciences, the Commission for Migration and Integration

¹ www.oeaw.ac.at/fileadmin/subsites/Institute/VID/PDF/Publications/Forschungsberichte/FB_28.pdf (13.09.19)

² www.oeaw.ac.at/fileadmin/subsites/Institute/VID/PDF/Publications/Forschungsberichte/FB32.pdf (17.09.19)

³ www.leopoldina.org/politikberatung/wissenschaftliche-kommissionen/demografischer-wandel/ (17.09.19)

⁴ www.leopoldina.org/publikationen/detailansicht/publication/zukunft-mit-kindern-2012/ (13.09.19)

⁵ www.population-europe.eu/ (17.09.19)

⁶ www.leopoldina.org/uploads/tx_leopublication/2014_Joint_Statement_Demographic_Change_ALLEA.pdf (17.09.19)

Research (KMI⁷) and the Commission for Interdisciplinary Ecological Studies (KIÖS⁸). Both commissions are extremely active in fostering and communicating their activities. For instance, a member of KMI, Max Haller, recently published a book on migration and integration⁹ and KIÖS recently published a report on the environment and society – challenges for science and policy in relation to sustainable development goals.¹⁰ Again, these reports are presented at press conferences and workshops hosted by the Austrian Academy of Sciences. To conclude with, I would like to mention two further very important advisory roles. For several years, I have been involved with the Austrian Science Fund (FWF), where I was a member of the “Kuratorium”, and I was invited to discuss important future research calls with the Joint Programming Initiative of the European Union. These are

⁷ www.oeaw.ac.at/kmi/home/ (17.09.19)

⁸ www.oeaw.ac.at/kioes/home/ (17.09.19)

⁹ verlag.oeaw.ac.at/migration-integration (17.09.19)

¹⁰ www.oeaw.ac.at/fileadmin/kommissionen/kioes/pdf/Publications/Opinions/KIOES_Opinions_8.pdf (17.09.19)

both very interesting but also very important advisory roles in terms of future research developments. We as scientists need to be active and support and identify research topics for which funding should be provided. With regard to the personal and institutional involvement of advisory functions, let me start first with the Vienna Institute of Demography (VID) at the Austrian Academy of Sciences. We are organising a yearly conference that is related to our own research and in particular also to specific research projects we are currently working on within the framework of ERC grants or other EU- and science-based funding. At these conferences, we also include a debate section that summarises and reflects on the conference topic. In relation to the conference and continuously throughout the year we aim to disseminate our research to the public via press releases and sometimes also through press conferences.

Additionally, we also publish a quarterly newsletter, “Demografische Forschung Aus Erster Hand”¹¹ in collaboration with research institutes in Germany. The format of the news-

¹¹ www.demografische-forschung.org/ (17.09.19)

letter is to publish scientific research findings in a very compact, understandable short summary of about a page.

Let me also mention my colleague Wolfgang Lutz, who has been appointed by the UN Secretary-General as one of the 15 members of the Independent Group of Scientists that will produce the quadrennial Global Sustainable Development Report in 2019. Obviously, the report represents a high-level advisory function. I could continue listing more of the activities at the VID, but let me move to my other affiliations. As already mentioned, I am also a member of the KMI and KIÖS, here at the Austrian Academy of Sciences. These commissions are truly interdisciplinary and the members affiliated to different research fields (ranging from biology to the social sciences, in the case of the KIÖS, and from linguistics to law, in the case of the KMI). The work of these commissions is to tackle interdisciplinary research questions but also to highlight gaps in existing research. Now allow me to briefly highlight a new initiative of the Austrian Academy of Sciences, “Wissenschaft und Politik im Gespräch”, which will be launched in about two weeks for the first time, a new forum

for dialogue where scientists meet with representatives of the Austrian parliament to inform them about the latest scientific research. These meetings should offer input and orientation for the decision-making processes in society. I am glad to have been invited to participate in the roundtable on demography and migration, an important topic today with often quite biased – and not scientifically grounded – opinions and attitudes. Another important initiative by the Austrian Academy of Sciences is the lecture and discussion series “Akademie im Dialog”¹². As stated on the OeAW website, “Basic research also involves reflecting on the foundations of research and re-evaluating its place in society. To this end, the OeAW offers high-quality lectures and discussions enabling researchers and the public to enter into a dialogue.”¹³

Regarding my affiliation with the Technical University of Vienna, I may also briefly highlight some of the

advisory functions the TU Wien regularly fulfils. For instance, TU Wien regularly presents its research to firms, at international technical exhibitions, etc., and has several initiatives to help disseminate its findings, e.g. the TU Innovation Incubation Center.¹⁴ Allow me to stress that we should also aim to bundle our efforts. TU Wien has joined forces with TU Graz and MU Leoben to form TU Austria.¹⁵ I am certain that it is important to be proactive in communicating our research and pooling our resources. Manfred Grasserbauer has already presented the conditions but also the obstacles we face when we try to disseminate our research. Let me reiterate his main points: our findings and recommendations must be precise, concise, targeted, and they must be useful. A major problem is indeed, whether the timing of a study is right, in the sense that it attracts attention, in which case its relevance will be enhanced. This is what we have to deal with all the time, the question as to whether we are relevant enough, but I think that we should not stay silent. Let me end

with a quotation: “Faced with an overwhelming amount of information and complexity, the role of academies in distilling the complexity into a finite number of evidence-based recommendations agreed upon by a panel of experts, is critical”.¹⁶ I think this is also the approach we should follow, providing evidence-based recommendations based on unbiased scientific research. For instance, when we talk about climate change, I do believe it is the complexity of issues involved which requires an interdisciplinary scientific panel. It is not only the physical and biological aspects we need to consider, but also inequality, globalisation, digitalisation, and other societal developments that must not be ignored. These are all topics many of our institutes are conducting research on. This communication in simple words to the outside world is something we always have to work on.

I agree with Louise Vet that the British Royal Society is a best-practice model. In my understanding, the

¹² www.oeaw.ac.at/mitglieder-kommissionen/gesellschafts-und-politikberatung/akademie-im-dialog (17.09.19)

¹³ www.oeaw.ac.at/en/members-commissions/society-and-policy-advice/academy-in-dialogue (17.09.19)

¹⁴ i2c.tuwien.ac.at/tuwi2ncubator (17.09.19)

¹⁵ www.tuaustria.ac.at/de/531 (17.09.19)

¹⁶ Diab R, Veldsman S. Science advisory role of national science academies. *S Afr J Sci.* 2016; 112(7/8), Art. #a0169, 3 pages. www.scielo.org.za/pdf/sajs/v112n7-8/09.pdf (17.09.19)

Royal Society plays a strong scientific advisory role in the UK. The Austrian Academy of Sciences is trying to follow such a best-practice policy with the recently established initiative on “Wissenschaft und Politik im Gespräch”, as I mentioned earlier.

What else? Just relating my own experience, since I am also a member of the Leopoldina, I may report on their activities. They have a whole spectrum of communication channels/advisory roles including scientific commissions with the aim of preparing scientific statements on various topics where they also include other academies, etc. Various examples can be found on the Leopoldina website, e.g. several of such statements were also published by the scientific commission on Demographic Change, of which I am a member.¹⁷ It is important to communicate our scientific findings through such channels and stakeholders may help in this process.

Whenever we submit a research proposal within the framework of the EU, we have to list stakeholders who may help to communicate our research

findings. Although it is often a difficult task to list appropriate stakeholders, I do agree that this practice may indeed help to communicate science to the general public. Stakeholders have their communication network and are experienced in condensing scientific results in an efficient way. However, it is important that stakeholders and scientists work in collaboration.

Perhaps the label “advisory function” is quite difficult. My attitude as a scientist is that we should not wait to be asked, nor should we give advice on issues on which we are not experts or when we cannot base our answers on scientific evidence-based results.

For instance, in the Commission for Interdisciplinary Ecological Studies, we decided to contribute to the general debate on the Sustainable Development Goals. We were not asked, but as a commission, we decided to contribute to the debate. Personally, I always feel more comfortable if expert opinions are initiated by scientists and not just demand-driven. As I argued earlier, we should play an active role, reaching out, when we are convinced that our scientific, evidence-based research has important contributions to society.

MICHAEL NENTWICH

I am glad to have the opportunity to add three perspectives on the topic of this interesting panel. First, I will elucidate my background as a scientific technology assessment practitioner who works for an Academy. Second, I will try to make you aware that giving policy advice is important, but cumbersome, demanding, and ridden with prerequisites. Finally, I would like to draw attention to an important distinction that has to be made, as not all advice is equal.

TECHNOLOGY ASSESSMENT AS A PARADIGMATIC TYPE OF POLICY ADVICE

I am the director of a research institute of the Austrian Academy of Sciences, which is devoted to technology assessment. In some respects we are comparable to the Rathenau Instituut of the Dutch Academy and are doing similar things: our work is related to technology policy in the wider sense, also including health, environmental, economic, or legal questions pertaining to new socio-technical developments; and we are both delivering policy advice, that is, the results of our research are intended to support policymakers. So, besides the scientific

¹⁷ www.leopoldina.org/politikberatung/wissenschaftliche-kommissionen/demografischer-wandel (17.09.19)

community in general, most of our studies have addressees in the public sphere. They are, in the case of my institute, among others, the Austrian or the European Parliament, various federal ministries in Austria, the European Commission, the City of Vienna, or the Chamber of Labour. Our studies usually include a discussion of possible options for action by the political system, sometimes even specific recommendations. We reach our addressees not only with our reports, but also with special publication formats like the “ITA dossiers”. These are policy briefs, very short, two-page documents that condense the results and recommendations in an easily readable note. Furthermore, we usually present our results to the policymakers in bilateral settings, face to face or in other forms. So, we are very close to politics in that sense. In one instance, so far, my institute has also been involved in preparing a report for the President of the Austrian Academy. The Academy also gives advice as an overall entity and, in some cases, the basis for this advice has been prepared by research units of the Academy such as mine. Our report was then transformed into a statement of the Academy and published. The issue at stake was the

potential digital breakdown of Austria, in other words the impact of a specific scenario similar to an electricity blackout.

Furthermore, I am also a member of an Academy commission that deals with the topic of “sustainable mobility”. This commission is specifically dedicated to giving advice to Austrian society and to policymakers with regard to mobility issues in connection with sustainable development. The commission approached the subject from various angles, such as technical, ecological, economic, societal and legal perspectives, and we are about to finish our report, which will then be presented to the public.

So my approach to and long-term experience with the overall topic of this session is that I work for an institute giving policy advice all the time, and occasionally I do that in other contexts, too.

PROVIDING ADVICE IS CUMBERSOME

Providing policy advice seems straight forward and simple, but in fact it is very demanding, ridden with prerequisites. I think this is true for all fields, but let me share with you the perspective of scientific technology

assessment, as I know this area best. Technology assessment is an inter- and transdisciplinary approach, but how is this done? As an initial basic step, we do proper research based on the scientific methodologies such as risk research, literature review, life-cycle assessment, expert interviews, etc. Incidentally, because it has been mentioned before, risk is never the only crucial issue. There are also other aspects, such as ethics, or societal impact, legal impact, etc. So for instance, for a long time in the 1990s we had GMOs, Genetically Modified Organisms, on our agenda. And we treated them not only as a risk issue, but as a societal issue too. From this perspective, you may come up with very different conclusions than if you only look at health or the environment.

However, the most important thing I wanted to stress here is that in the final step, after the research is done, the final results targeted towards policymakers are developed in an iterative, discursive modus, including experts and practitioners of all kinds; quite a few people are involved. Often, we organise targeted workshops for this, often with experts, but also with stakeholders and even citizens’ panels – so we usually involve people

from outside scientific communities in a careful and very systematic manner. Before a study is finished, at my institute, there is always an internal workshop, which involves the entire scientific staff. This workshop is devoted to discussing the final results and preliminary conclusions, i.e. the recommendations or options. This is very important for quality control. It is only after this that the public relations activities in the wider sense follow, i.e. the attempt to translate our scientific jargon into plain accessible language. And, in parallel, we also prepare scientific publications, which will then be submitted to academic journals – which is another important element of our quality control system.

I would like to add here a word on the issue of taking sides, because obviously this is also something we always have to deal with in our field. The widely shared opinion in the technology assessment community is that we offer options, we add knowledge to the public debate, but we do not take sides, because taking sides would pre-empt the decision-making. Making decisions, however, should be the realm of the political sphere, and that is not the task of science. However, it is quite difficult not to do

so, in cases with very clear academic consensus regarding one option. Still, we will always debate the pros and cons on all sides.

NOT ALL ADVICE IS EQUAL

I can only speak as an outside observer when it comes to the policy advice of academies, as I am not an elected Academy member. What I may add to the discussion of possible best practice examples, however, is a relevant observation on the meta-level. I would like to draw your attention to one distinction that I think is very important to keep in mind. When academies – or any other research units for that matter – give advice, they may do so in two very different modes, which should be well distinguished. The first is called “science for policy”, and the second “policy for science”. That is not just a play on words. There is a very important distinction.

In the first case, “science for policy”, scientific evidence is made available to help politics formulate better policies. So “policy” in the first case means all kinds of policies, from economic to societal topics, from the environment to health, from demographic issues to constitutional ones. In contrast, in the second case, “pol-

icy for science”, an Academy is acting as an advocate, or lobbyist, for the scientific community. So this is about science policy only. While in that case what the academies are communicating may have its roots in science, or to put it more precisely, in scientific practice, the Academy has nevertheless a stake, and its advice is therefore mainly interest-based. Just as, say, a workers’ union has an interest in communicating their ideas to the public. So in that sense, the Academy would act in the interests of science, or perhaps even more narrowly, in the interests of the Academy itself. For instance, if the Academy is lobbying for funds for a large research infrastructure, or for the acceptability of an experimental method in which it has a vested interest, or e.g. for the privilege to use personal health data, as has happened just recently in Austria, or the like – then this is “policy for science”.

And that is not the same in the first case, “science for policy”. Here, an Academy has no particular stake as an institution or as the representative of the scientific community, because it is all about gathering, analysing, presenting and applying scientific knowledge to whatever issue there is. The target is not science policy. What

is under consideration, for instance, is that an Academy may give, as I mentioned before, an opinion on the best ways to reach sustainable mobility. And to be brief here, I think in that second case – and I think we are mainly talking about the second case on our panel here – obviously, the advice should be nonbiased, of the highest quality. There must be a set of procedures, rules-based, governing how this should be done. This should be peer-reviewed, etc. Obviously some of the academies, including the Austrian one, have a set of rules for doing that, which are more or less sophisticated. This is essential for the legitimacy of that advice.

CONCLUSION GERDA FALKNER

In terms of a conclusion, it seems most important to highlight that the panel revealed no split at all between the Netherlands and Austria. We had a very lively debate, but there was no cleavage along national lines. There were many common themes, and there was ultimately a lot of agreement among the participants. At least four take-away points from this panel can be highlighted:

First, there was profound agreement on the crucial role played by science communication and other professional support for those members of the Academies providing policy advice. Unfortunately, professional science communication essentially depends on the available resources. Furthermore, it seems that internationally, that is quite diverse. I hear that, for example, the Leopoldina in Germany seems to have a rather big office for this, 12 or 13 staff members, if I am not mistaken. Not all Academies can match that, unfortunately. Be that as it may, professionalisation in science communication was something that was clearly welcomed on our panel and it is being attributed a considerable role in the success of an Academy's advisory activities.

The second point: cooperation, not least also between Academies. We heard some very successful cooperative examples of what is being done on the level of policy advice, including members of this panel. A significant amount of policy advice is even provided across national borders. Moreover, a call for cooperation across levels of governance and government has been voiced on our panel. Examples mentioned the United Nations and the European Union, down to the

member states, and even to lower-level governments there. And: “the more, the merrier” – this is a very appropriate saying when providing policy advice is at stake. One can play an even stronger role when co-opting other Academies and other academic colleagues.

The third take-home point from our debates is an interesting conceptual differentiation of great practical importance. It came from the realm of technology assessment. In giving advice, this field of activity highlights, there can be two very different issues at stake, upon closer inspection:

- One is “policy for science”. Now that is where we as academics and even institutions like an Academy, have a kind of self-interest. Consider, for example, an input statement for a government concerning how to design research policy. That will directly affect research institutions, including the country's Academy. In such matters, we are stakeholders, and not necessarily neutral arbiters or presenters of evidence-based findings (the latter is what is usually meant and understood by a broader audience when they consider “policy advice” provided by an academy of sciences).

- By contrast, a very different form of policy advice can be labelled “science for policy”. That refers to scientific research (on all kinds of topics) and the presentation of findings of academic work in such a way that the policymakers can actually make best use of them. This means presenting, in neutral fashion, the findings in a relevant field so that they can have an impact on the policies decided upon by politicians. Here, it is easier for an academy to act as a kind of neutral arbiter – this is exactly what the public expects from academies, in fact: that they present findings based on evidence, compare and weigh different findings in a methodologically sound manner, discuss pros and cons in-depth, and serve as an (ideally) neutral arbiter between potentially differing views that may occur within academia as much as they do in the broader public.

In any case, and this is the fourth and final relevant insight from our event, the panellists voiced profound agreement that it matters decisively how any policy advice is produced and presented:

Considering the examples mentioned, even on the worldwide level, some academies seem to have drafted quite elaborate rules and procedures for developing formalised policy advice (such as position papers or reports). Maybe it is also because Germany is the country of Niklas Luhmann (who formulated the theory of “legitimation by procedure”) but, in any case, the German Leopoldina seems to have made particularly good progress in having very clear-cut rules about how to actually look for both internal and external validation. Their reports are produced in accordance with a very elaborate and formalised process, in groups, with – to name one crucial procedural requirement – peer review. The point is that both the authors of any piece of policy advice need to be legitimate (i.e. the best experts in their field, chosen according to clear rules that guarantee objectivity and well-weighted results, including conflict of interest principles), as do the procedures according to which the reports or statements are drafted and re-drafted. A balanced representation of potentially differing views needs to be assured, and a careful process of peer review should further increase the quality and formal legitimacy of the product.

In short, one conclusion of the panel was that policy advice can only be as good as its own legitimacy. This clearly comes at a price in terms of costs – both on the level of time (for the drafting of the content and ultimately for the coordination of intricate processes of revision and review and “popularisation” for a potential broad audience) and on that of money (since working time will often have to be remunerated or employment contracts for Academy personnel paid). However, this seems without any doubt to be worthwhile: at least in the long run, only advice generally considered legitimate will be heard and will further the reputation of those who offer it.

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PANEL 4

MULTILINGUALISM IN THE HUMANITIES

Chair:

Stefan Michael Newerkla, OeAW

Panellists:

Lotte Jensen, KNAW

Thomas Corsten, OeAW

Pieter Muysken, KNAW

Danuta Shanzer, OeAW

Paolo Sartori, OeAW

INTRODUCTION

STEFAN MICHAEL NEWERKLA

In many respects, multilingualism is a fundamental principle of the arts and humanities. Language is much more than a mere technical instrument for communicating research findings; while a common professional language may suffice in a more technical descriptive field, this does not hold for hermeneutics, the theory and methodology of interpretation, and thus a core aspect of work in the arts and humanities. Here, interpretation and orientation are closely bound up with linguistic cultures and their epistemological traditions. And the variety of approaches is also deeply related to linguistic, and hence cognitive and cultural perspectives.

The arts and humanities in Europe have achieved a very high level of nuanced interpretation despite, or rather precisely because of this linguistic cognitive plurality. Moreover, multilingualism also guarantees the orientational role the humanities must perform in a social context. All societally significant cultural debates take place in the European national languages. The translations of significant works in the field take on sustained importance, since European

culture is based on linguistic variety. This variety in academic culture has been under threat from the science policy of the last two decades on both the European and the national level. For purportedly egalitarian, utilitarian and technocratic reasons, English has often been promoted as a common language and has often been virtually forced upon scholars, for instance in applications to major funding bodies. For Austria there is the example of a special research programme on German in Austria in which all evaluation processes, the grant applications, the hearings and even the conversation during the short breaks had to be conducted in English. All the experts in German linguistics had to do their evaluation in English. It was quite an experience, but eventually it worked out. We received the research grant. Research on language, literature and cultural topics of other widely taught European languages is also required to be conducted in English. But why? What is all the hassle for? Is the basic legitimization of procedures and formulas of funding bodies more important than the scientific debate in the languages all the research work is devoted to? Is not the belief in the scientific comparability of project appli-

cations just because they are written in English utopian and self-deluding? What does such a policy stand for? Is it not just a question of the politically purposive use of structural processes of supplanting via the relevance of a language? There are distinct traditions of science and scholarship in Europe which are linked to certain languages and which still persist, regardless of science's claim to universality.

On the contrary, an academic education focusing one-sidedly on English frequently leads to a situation in which younger researchers can no longer access older, but still valid, research findings. Such a monolingual approach does not advance, but rather undermines recent efforts to promote excellent research and risks a regression to a level of knowledge long since surpassed. This regression in knowledge and declining quality are not the only consequences of an enforced monolingual science policy. Another risk is the theoretical and terminological impoverishment of all other European scientific languages, and a particular concern is the separation of academic research and its reception within society. Meaning that the humanities can no longer perform their role in providing orientation,

which in today's world has become more important than ever. We should not underestimate what we have already achieved.

But where does this trend of Anglicisation in European education and science policies come from? From the natural sciences, computer science and medicine, because these are the areas where this assimilation has progressed the furthest? Or are they just the first victims of a universal trend? Why do we let generalised social and political pressure force us to deny our own scientific traditions, reject the historical identities of distinct scientific cultures and ascribe, at least in science, low social prestige to all languages other than English?

Before I pass the word to our panel members for their statements, I want to mention another brief example from the *University World News* of 23 February 2018. In their article "The challenge to higher education internationalisation", Philip G Altbach and Hans de Wit from the Center for International Higher Education at Boston College observe that the global landscape for higher education internationalisation is changing dramatically. While they describe the past 25 years (1990–2015) as "the era of higher education internationali-

sation" with massive global student mobility, the expansion of branch campuses, franchised and joint degrees, and the use of English as a language for teaching and research worldwide, they now fear that this development may come to an end, especially in Europe. And they say that there are two major threats, one being the visa restrictions imposed on students. But the second is multilingualism, more or less. They equate internationalisation with Anglicisation. For instance, they are appalled by comments from the rector of the University of Amsterdam, arguing that English-taught academic programmes are too widespread and should be cut back. They criticise Germany and Denmark for their debates about the negative impact of English on the quality of teaching. They are similarly dismayed by the fact that in Italy, an intense fight at the Polytechnic University of Milan about the use of English in graduate education resulted in a recent court ruling that might drastically limit the use of English in Italian higher education on constitutional grounds. And they react with irritation and a lack of understanding to social scientists in many countries who express concern that the demands for publishing in

English international academic journals are making it difficult for them to stay active in their national discourse. Altbach and de Wit conclude that English will remain the predominant language of scientific communication and scholarship all the same, but its dominance, however, may be reaching a ceiling. But is multilingualism in one respect or another indeed a problem for a further deepening of international relations? Or is it rather the key to a genuine internationalisation of higher education and research?

In the run-up to our Joint Academy Day, I had some questions sent to the panel members, which they will now react to. They were as follows:

- What is the relationship between the multilingual individual, the multilingual society and the need for multilingualism in the humanities?
- What are the opportunities and challenges presented by multilingualism in the humanities?
- How can we influence critical to negative attitudes towards multilingualism in the humanities?
- In a world where multilingualism is the norm, how can we tackle defiant research funding bodies, science business organisations,

citation indexing services, accreditation bodies, etc. in their one-sided utilitarian promotion of English as the lingua franca of science?

- Could strategic planning on a European level be used to foster multilingualism in the humanities, and if so, how?

LOTTE JENSEN

The issue of multilingualism is of vital importance in academia, in particular today, when we are witnessing a large increase in English-taught programmes. In the Netherlands, the number of English-taught Bachelor's and Master's programmes has increased significantly: currently circa 75 % of the Master's and 25% of the Bachelor's programmes are provided in English. Some universities have switched to English entirely.

DUTCH AND / OR ENGLISH IN DUTCH HIGHER EDUCATION

The high number of English-taught programmes in higher education has led to much debate in the Netherlands. On the one hand, the use of English is welcomed as a means to increase internationalisation and to

prepare students for international careers, while on the other hand there are worries about the quality of the education, the accessibility of higher education, and the consequences for culture and society. In 2017, the Royal Netherlands Academy of Arts and Sciences (KNAW) was asked by the Dutch minister of Education, Culture and Science to conduct a prospective study on language choice and language policy in Dutch higher education¹. One of the most important recommendations of *Nederlands en/of Engels?* was that language choice should always be a conscious one, and that differentiation is essential. There is no "one-size-fits-all" solution, but choices should be made in accordance with the specific objectives of a study programme. Therefore, as the report suggested, the language of instruction is best decided on the department or programme level, although the institution carries as much responsibility for setting the overall language policy and for providing supportive language and internationalisation policy.

The report has led to growing awareness that universities need a well-

¹ www.knaw.nl/nl/actueel/publicaties/nederlands-en-of-engels (17.09.19)

balanced language policy. Yet there are still many concerns, and the debate remains polarised. One of the issues that are currently being discussed is whether Dutch law should be changed. Currently, the law prescribes that teaching in higher education should be in Dutch, unless there are good reasons to choose English as the main language of instruction. The minister has now submitted a bill that allows for English-taught programmes if they have added value. This requires institutions to have "codes of conduct" in which they justify their choices. Opponents now fear that there are too few mechanisms to ensure that Dutch-taught programmes will survive, and have expressed their concerns in an open letter which was signed by 194 professors and public figures.

Being a professor of Dutch literary and cultural history, I actively participate in the current language discussions. Although I can see the added value of English in the field of research, internationalisation and conference meetings, I am concerned about the position of Dutch language and culture in the academic context, too. I will briefly mention three of the problems I come across. First, it has become increasingly difficult to teach

specialised courses on the Master's level. Master's research courses or courses organised by the graduate school are taught in English, and this means that it is not possible to prescribe Dutch primary or secondary reading material. This problem, incidentally, is also evident in study programmes such as French, German and Spanish. Even at the Bachelor's level, we constantly have to defend our territory: in order to prepare students better for English-taught Master's programmes, we offer an increasing number of English-taught minors.

Second, we see a snowball effect on the organisational level: more and more university-related programmes and activities are offered in English. We are permanently juggling to decide what language will be used for such activities: choosing Dutch means excluding some of our non-Dutch-speaking colleagues, while choosing English may have its repercussions for the speakers you want to invite, the liveliness of the discussion, and the active participation of the Dutch students.

Finally, the gap between research and teaching practices has grown. As researchers, we publish as much as possible in English; since this

increases our potential to obtain funding, publications in Dutch are often valued less. This means we also have to stimulate talented students and PhD students to improve their English language skills and publish as much as possible in English. At the same time, we wish to improve the Dutch writing skills of our students, since this is an integral part of the Bachelor's and Master's programme in Dutch language and culture. This is a rather paradoxical situation which is not easily solved, but touches the heart of academic evaluating and rating systems.

One of the ways to increase awareness is visibility in the media. By continuously emphasising the added value of multilingualism, including the study of Dutch language and culture, in newspapers and interviews, I hope to contribute to that.

THOMAS CORSTEN

In Austria, we have basically only one real funding body for the humanities, the "FWF" ("Fonds zur Förderung der wissenschaftlichen Forschung") and the FWF force us to write all applications in whatever field in English. Since this is counterproduc-

tive in the humanities, I started a petition against this policy in 2015. I myself was very much surprised by the success of the petition, since we already received 500 signatures on the first day, and in the end, after three months, the figure stood at 3,000. And we had the same problem as you had in the Netherlands, because one of the parties in the parliament, the right-wing party, was very happy about that of course. They put a parliamentary inquiry to the Minister of Education and Research. However, since in this period, he was equally responsible for the economy and since he was an economist, he didn't know anything about the problem. So he just asked the FWF what he should answer and then he repeated what the FWF said, without understanding, or even trying to understand, our argumentation. A few days later, we held a press conference in one of the nice cafés here in Vienna. We also invited the FWF, but due to time constraints (that is what you always say ...), they couldn't attend. What a pity, but as a substitute for their physical appearance they sent their usual statement with their usual stupidities in it. These stupidities basically consist of a few keywords that they use without regard for the field to which

they are applied. These terms include “internationalisation”, “comparability”, “excellence” and a few more. I will start with “internationalisation”. The FWF claim that “internationalisation” is only possible if you do everything in English. To start with, the word itself is a monstrosity, since it implies that we are currently sitting in our little Austrian snail’s shell without a care for the rest of the world. However, what the FWF do not know and do not want to know – and you can repeat it to the FWF as often as you like – is that our field (I’m an ancient historian) and, in fact, all areas of the humanities have always been and still are “international”. This is not only shown by an impressive number of international conferences that are held all over the world and by an even more impressive number of international journals published in our field, but also by the fact that many of us ancient historians have conducted research and/or taught in different countries in the course of our career. For example, I myself have worked in the States (Chicago and Ann Arbor), in France (Lyon, Paris, Bordeaux), in Holland (Leiden), and in Oxford, and now I’m here, as a German. So, I am truly “international”. In addition,

we are frequently asked to review research proposals from everywhere, and I have been on committees (for doctoral degrees and for “Habilitationen”) in France, in Denmark, in Poland, in Serbia, in Great Britain, and in a few more places. So, why should we “internationalise” ourselves or, in other words: where is the need for “internationalisation”? This “international life”, which has been normal for us as long as the humanities have existed, has of course led to the use of several modern languages (after Latin went out of use). In our case, Ancient History, four languages are recognised on an international level as “official” languages or “Kongresssprachen”, and these are English, French, German and Italian. These are the languages of the countries in which our discipline originated, and these are therefore the languages in which the results of our research have been published from the very beginnings (that is not to say that they are the only languages used in publications, but let’s stick to them for the purpose of our discussion). And since in most cases we still have to use publications that are 100 years old and older, we have to be able to read (at least) these four languages.

So, if a student comes to me with the urgent desire to write his or her dissertation with me, I have of course to expect from him or her that he or she is able to read these four languages, besides Latin and Greek of course. I can’t accept anybody who cannot read them since he or she won’t be able to do his or her job properly. But the FWF expect me to be judged by someone who knows only English and whom, as a consequence, I could not even accept as a doctoral student. And that is how they, the FWF, think they are raising excellence. “Excellence” is always a problem anyway: politicians tell us that we have to be excellent but in order to enable more people to be “excellent” their solution is to lower standards. Then more people can meet these standards and more people are excellent ...

Another keyword: “comparability”. What the FWF mean by “comparability” is that applications in different fields, across the sciences and humanities, have to be comparable (“Gleichbehandlung und Vergleichbarkeit der Anträge”). This is, basically, right – the problem is what they want to compare. It is a fact that the use of languages in the sciences is different from that in the humanities,

in that research in the sciences is now conducted almost entirely in English. As I said, for good reasons, this is not the case in the humanities, and even scientists admit that, which is the reason why our point of view is supported by some scientists too, especially here at the Austrian Academy of Sciences. But what the FWF mean by comparability can be summarised as follows: since English is more or less the official language in the sciences, the applications from the sciences could not be compared with applications from the humanities if the latter were written in, say, German – because the humanities would allegedly have an advantage compared to the sciences. But this is not a question of comparability but of egalitarianism. There is a saying in German: “Man kann nicht Äpfel mit Birnen vergleichen” – which is not quite true, at least in the sense “vergleichen” has today, since you can compare apples to pears. And the result of this intellectual exercise will be that apples and pears are different. Not so for the FWF – for them, apples and pears, i.e. the sciences and the humanities, are the same. Imagine the FWF had a restaurant and you ordered apple crumble for dessert. You should be aware that you may be

served pear crumble instead – since it’s the same! You would certainly feel cheated – and this is exactly how we feel. So to compare something does not mean we have to force the set of rules of the sciences on the humanities. That is not comparability – that is dictatorial behaviour. Thus: would it not be better to judge the sciences and the humanities not on the basis of the same criteria but on the basis of the preconditions of their respective fields?

This, i.e. the wrong use of the terms “internationalisation” and “comparability”, is the basic problem (not the only one, however). Everybody in our field knows that the use of these terms by the FWF is utter nonsense, and this is expressed often enough. Therefore we must ask ourselves why the obligation to write applications in English is still in force, more than 10 years after its introduction. Now, I may answer my question myself: the problem is cowardice. Most of our colleagues do express their criticism of the FWF’s English-only policy – but only among themselves, and they are afraid to say openly, i.e. also to the FWF, what they think.

One reason for this, in turn, is what I would call the economic factor. Those people think (and some-

times even say) that if they express an opinion that doesn’t please the FWF, they won’t get money. But in fact, it’s not the FWF who decide in the last instance, because they have their (international) experts, and they (usually!) rely on their expertise. So, I think that there is no real danger that if you oppose one of the rules of the FWF you won’t be supported. But this is the perception of the consequences of criticism and, I’m afraid, it is a very popular perception. That is, of course, not only a problem in our field, but a problem of our society.

PIETER MUYSKEN

There may be as many as 7,099 languages in the world, although this number is rapidly shrinking. Not all of these languages have the same opportunities and social, political and economic status, as has been stressed by many scholars (a good example is Abram de Swaan’s provocative book *Words of the World. The World Language System*, 2002). These inequalities have long been recognised. The Greeks designated a person who did not speak their language and did not follow their

customs as “βάρβαρος”, and indeed all over the world, from the Amazon to the Himalayas, such distinctions are made. With the Renaissance and the Reformation, different vernacular languages in Europe started acquiring status and developing literary traditions. In the Romantic era, the notion of the “Kultursprache” gained popularity. It roughly refers to languages with an independent literary tradition and literature. To give this notion a more solid and object basis, Kloss (1967) coined the term “Ausbausprache” to refer to standard languages with possibly a number of dialect variants. With the colonial project some of these languages were taken all over the world, where the European colonialists were of course confronted with other languages that had a long written tradition, such as Chinese, Japanese, Farsi, and Sanskrit. With the development of science and the growth of scholarship, a number of languages also came to be used as languages of science and scholarship. Finally, some of these languages were adopted as the language of university education. The exact figures are not known, but probably no more than one per cent of the world’s languages are used in university education.

A PLEA FOR LOCAL MULTILINGUALISM IN THE HUMANITIES

At present, we are confronted with the growth of English as a lingua franca. We cannot underestimate the value of such a lingua franca. This is the first time in history that we have a truly global lingua franca rather than a network of competing languages. Of course, this has to do with the military and political history of the last 80 years, but also with what in social media analysis is called the network effect. That is, if you have a particular type of communication system, the more it is used, the more valuable it becomes. So in that sense, English is a bit like Facebook or Instagram, in the sense that it spreads because of its followers. Now it has a value beyond its military and political history. It is part of our global system, and I should stress that that global system has become much larger than the Atlantic. Africa, Asia, and South America are playing an increasingly important role in providing new ideas, bringing in new things. So I think if we take global communication and the spread of innovation seriously, we also have to think about the importance of good English on the global level. Personally I hope this use of English survives the frac-

turing of the world into a number of competing economic spheres.

However, the struggle to promote European national vernaculars, and the privilege of having one’s language as one of the select few used in university education (keep in mind for instance the language battles at the University of Leuven/Louvain in the 1960s) is not to be taken lightly.

What is the case concerning the use of other languages? I think a strong case can be made, and I will give three arguments.

First, using your own language is key in authentic communication and learning (Annette de Groot, 2017, once again lists the psycholinguistic arguments for this claim). Authentic communication in the sense that if we rate any conversation in one’s native language and give it an eight, communication in a second language may well be rated as a six. So, I think the most important argument for using your own language at university (which is only possible for speakers of the one percent of the lucky few languages in the world) is quality of communication and learning. And I think this is what we should really defend, particularly in the humanities, where quality of communication is central.

A second argument of course is that humanistic knowledge is local, historical, and contextual. We can't talk about Rembrandt without studying Dutch and the history of Amsterdam in the 17th century. We can't learn about Egon Schiele without studying German and taking early 20th-century Vienna into account. We can't talk about Pompeii without Italian and Latin. So, in that sense, in the humanities, language-specific communication and locally established knowledge is essential. There's a long tradition of things that your students have to know if they want to be able to take your courses and write the right kind of thesis.

The third argument holds for all academic discourse, and concerns democracy and scientific language. We cannot dissociate science from civil society by having all of science in English. And this holds not just for the humanities, but for all of science. We need bio-ethics in German and in Dutch. We need artificial intelligence in German and Dutch. We need climate change discussion in German and Dutch in order to be able to have a discourse about it in our civil society. Those are the three arguments for me then – democracy, local knowledge and authentic communication – for

maintaining a strong position of the national vernacular languages in academic discourse, particularly in the humanities. However, the position of English as a global lingua franca is not only real, but also desirable. Thus we need a mosaic of local multilingual systems in the universities, certainly in the “Geisteswissenschaften”, to serve both of these needs. We need to assemble best multilingual practices from various countries. The need to resist a massive shift to English comes from concerns about the very quality of our education, in spite of the prestige of English and its associated flavour of quality.

The final point I want to make, which goes in a different direction altogether, has to do with computer technology and language. Translation technology is improving every year. It might be that 10 years from now books can appear instantly in 20 languages because the translation possibilities are good enough for the publisher to do a multilingual edition from the very outset. Also, in face-to-face communication, instant automatic interpreting is improving rapidly. Another trend is the increased presence of small indigenous languages in social media. I am starting to work on the Ecuadorian

Amazonian language of the Wao-rani, Wao Tededo, about which very little is known, but which does have a Facebook presence, to my great surprise. We do not know what this increased digital presence of smaller languages will mean in terms of increased access to different knowledge sources in languages which in the past had been cut off from the wider world.

DANUTA SHANZER

Instead of a formal prepared statement, I have brought a few texts with me. Like Thomas Corsten, I'm a classicist, but I'm also a medievalist who works on patristic theology. Naturally, I asked myself what the Bible thought about language. Three passages came to mind. One is Judges 12:6: “Then said they unto him, Say now ‘Shibboleth’: and he said ‘Sibboleth:’ for he could not frame to pronounce it right. Then they took him, and slew him at the passages of Jordan.” We hear how important pronunciation is. It makes the difference between staying alive or getting killed. Are you a foreigner or not? Are you a spy? And it hangs on a difference in one aspiration in a sib-

ilant, whether you say “shibboleth” or “sibboleth”. So pronunciation matters; pronunciation is dangerous. It had better be good or it can seal your fate.

The second passage is Genesis 11:1-9, the Tower of Babel: “And the whole earth was of one language, and of one speech.” The God of the Israelites knew that one language was conducive to good cooperation, but also to world dominion. So he sabotaged the project by dividing the languages of the overweening builders of the tower. You’ve all seen Breughel’s famous painting of the abandoned construction site in the KHM.

I’m delivering a sermon, in case you haven’t noticed. We can now move on to Acts 2:1-15. There, we have a wonderful translation miracle. Christianity had to be promulgated in Asia Minor and other areas of the Diaspora, so one needed languages beyond Aramaic. But what if you’re poor monolingual Galilean fishermen who must soon preach to foreigners? A miracle is needed. Tongues of flame appear above your heads. Suddenly, you can speak in other tongues. And then there’s a second miracle: the international Jews assembled in Jerusalem suddenly start hearing the disciples in their own different lan-

guages. It’s like a kind of simultaneous translation going on within your head. This miracle enabled Christianity’s mission.

It reminds me in a sci-fi fashion of what we might expect in our ideal futuristic society. We will both sit here, and you’ll be speaking whatever it is you speak, but I’ll be hearing you in my language, by magic (or technology). So, I think there are some benefits from having a *lingua franca*, one language. The Bible tells us so.

I would now like to return to what Thomas Corsten has been saying. I’m a classicist: I teach dead languages, Latin and Greek. And I try to communicate in living ones. In my field there’s a broad consensus about the four modern research languages we are expected to handle, namely English, French, German, and Italian. We have to read Greek, and Latin. But reading, hearing, speaking, and writing are very different. And I will betray our dirty secret, namely that most classicists, particularly ones in the Anglophone world, can read their core languages with a dictionary, but many cannot understand lectures in them. Outside the Anglophone regions, more may speak one or more, but very few native speakers

of the classicist’s four core languages write a second living language well – unless it’s English. And even that’s comparatively rare. We have some Swiss in the room. They’re special, a chosen few, born where perfect French, German, and Italian come with the territory.

So ... English is the new Latin! And native speakers of languages other than these four core languages have the additional burden of lecturing in a foreign tongue, and if they want a broader readership, they must publish in one. And then add to this that speakers of German and Italian are increasingly choosing to publish in English with Anglophone presses. Out of ambition or for visibility? Is it to avoid subventions, which Anglophones consider unacceptable for scholarly publications? Or could it be for more positive reasons, for style, for fit, because the kind of work that is published by Oxford or Cambridge or Harvard or wherever is different from what gets placed with De Gruyter?

In my field, one doesn’t hear many negative reactions to multilingualism in the humanities. Everyone would pay lip service to it. We would all love to be multilingual. We support multilingual grant applications in

the humanities. I'm 100% behind Thomas Corsten on that. The major conferences I attend accept papers in all of the classicists' core languages plus Latin and Spanish. If you're a speaker of Danish or of Polish, you're in trouble – but you can always speak Latin.

But for me there is a second and equally important issue, namely communication. Even before one thinks of a second language, remember all the people one hears speaking their native languages who are horrible communicators. Their rhetoric, their organisation, their volume, their delivery, their pronunciation, all utterly substandard.

I have heard speakers at classics conferences whose pronunciation is so bad that it is impossible to discern what language they think they're trying to speak. It may bear some relationship to Modern Greek, be meant to be French, but come out sounding like Portuguese. No gain for communication. So, my personal preference (and it's one that many classicists share) is that each person speak her or his native tongue as clearly and eloquently as she or he can. If you happen to be from outside the core language community, you have the additional burden of speaking a lan-

guage that is not your own, in which case – considerably, please, with attention, to speed, pronunciation, and audience!

I saw a star performance by a senior colleague from Zurich who demonstrated informally how he went up the scale from the dialect he speaks in his village to how he speaks when he speaks German at an international conference. In between came tones appropriate for his own university and for a German university. He could switch gears (accent and speed) on the fly. There are other helpful techniques: some audiences, particularly Americans, will do much better if they can read the lecture's text simultaneously. Many speakers are now providing one as a courtesy, and European conferences are increasingly projecting the original text on a second screen.

And there's another pressing question: What about the students? If you were a language major, at some American universities, for example, you may have had to complete work in another language outside your major for the language requirement. Some may have allowed maths to count as "another language." So, this would be an important question for Austria: whether we could add

requirements that are not just part of a whole area but are needed for a specific field.

Then come problems with graduate studies. It shocks me that doctoral candidates in Austria cannot read French. This is unacceptable for classicists, but we have no way of enforcing a language requirement. In America, if you were enrolled for a doctorate in classics, you would be required to pass translation exams in French, German, and Italian. It might be a page of Pauly-Wissowa's *Realencyclopädie der classischen Altertumswissenschaft* or some other suitable scholarship, but translate it you did. American universities also offer reading-courses in modern languages that are directed specifically at graduate students. It would be better, of course, for them to learn how to speak, but it's at least a start. In Austria we cannot determine field-specific qualifications for a graduate degree. Add to it that we're producing classicists who don't have Greek or ones who don't have Latin, which seems even crazier to me.

One thing though I will say that is much better in Europe – to me, at least – is the preservation of the integrity of departments. Politics affects language enrolments and

hence institutional history. German, for example, has now become a “less commonly taught language” in parts of the United States. When I was teaching at Cornell, the administration seemed inclined to eliminate the Italian department. Classics already housed Modern Greek so we said we would host the survivor: Italian being, of course, modern Latin! They tried (unsuccessfully) to eliminate Russian, even though it was the department where Nabokov had taught. So, a sample of the threats one lives under at American universities. Languages can also be seen as weak and can be lumped. At Illinois, they amalgamated us all indiscriminately into a low-rent district called the “Foreign Languages Building” (of which classics counted as one, the past being a foreign country perhaps?) that was eventually bureaucratically reified into a school. At least you’re not facing that kind of trouble in continental Europe.

PAOLO SARTORI

Interacting as I do mostly with scholars from the successor states of the Soviet Union and operating across fields as different as Iranology,

Turkology, Islamic and Slavic Studies, in my academic routine a situation of multilingualism is in fact the rule, rather than the exception. But fortunate as I am to move between various languages, I equally recognise that multilingualism is usually put in opposition to monolingualism. The latter is a situation with which most of the constituencies (including academia) forming our societies commonsensically identify, for they assume that to express themselves in one language is and has always been the norm, and to juggle with many languages (including Oriental ones) was and is some kind of deviation from said norm. It seems to me, however, that this opposition is in fact only artificial and that if one begins to reflect historically on the notion of multilingualism, this presumed opposition resolves itself.

In what follows I would like to seize the opportunity presented by this panel to see if there are ways for us to think about multilingualism in the humanities from a historical perspective, by which I mean by historicising multilingualism as a phenomenon in the past. I do so with the staunch belief in the craft of the historian as a method of reasoning which allows us to open up windows onto precious

knowledge which the episteme of progress and modernisation would otherwise leave hermetically sealed. I specialise in the history of the Muslim-majority regions of the Russian Empire and the Soviet Union, an area which covers Central Asia, Inner Russia, and the Caucasus, and in the recent past I have also made occasional forays into the history of Western China (otherwise known as Xinjiang). If we take a bird’s-eye view of the landmass covered by all these regions across the early modern and modern period, one cannot fail to observe that one of the most significant changes among the various transformations local societies have undergone over the last four centuries is the rise to prominence of the so-called local languages, a process which has been termed vernacularisation.

The dominant historical narrative explains to us today that vernacularisation was the process whereby communities of scholars decided to elevate local languages from the status of demotic to literary and, in so doing, effectively renounced trans-regional worldviews in favour of their own localised systems of knowledge. As this historical narrative has it, vernacularisation was a movement of

withdrawal and abdication in which the men of the pen purposely decided to think small and replace previous cosmopolitan sensibilities with localised ones. Many today agree on the interpretation that the process of vernacularisation in fact anticipated the sensibilities that manifested in the modern period, especially in the 20th century with the triumph of the nation state and the hegemonic status of national languages.

While excavating archives and digging for sources crafted in local languages, I began to recognise that there is a major problem in this narrative. The problem consists of assuming that the rise of a vernacular language and its becoming a preferred medium of literary exchange brought about the replacement and effacing of other trans-regional languages. What I want to say is that according to the dominant historical interpretation, the process of vernacularisation was a one-way movement leading necessarily to the creation of national languages. This teleological narrative, however, omits and therefore obliterates from history that in many parts of Asia the rise of the vernacular is concomitant with a different, though equally significant phenomenon, namely the preservation of multilin-

gualism as a practice of scholarship and an instrument of education. Let me give you an example. Beginning with the 18th century at the latest, one can observe a cultural realignment in many regions of Central Eurasia, which amounted to a process of debasement and popularisation of a corpus of Islamic scholarship. In this process, Turkic languages acquired a dominant position over Arabic and Persian in the transmission of historical canons or the development of Islamic devotional practices. It does not mean however that Persian and Arabic died out. On the contrary, they did in fact retain their status as the preferred linguistic medium for the composition of specific genres, ranging from poetry to Islamic jurisprudence. In other words, if one fine-tunes historical research in the archives and manuscript libraries of Asia, one finds that, together with the process we call vernacularisation, one can appreciate the concomitant effort to preserve writing practices, which were specific to certain spheres of knowledge and which could manifest themselves only in languages other than the vernacular. While many have commented upon the rise of vernacular languages, little has been done to explain why

societies made and found space for complex situations of multilingualism in spite of deeper cultural realignments leading to the hegemony of one language. One way to tackle this question is to pause to reflect on the social role of the scholars who in the past embodied multilingualism as an ethical disposition.

For the purposes of our panel, I think it is important to take stock of the fact that in the past, cultivating multilingualism was not just an academic occupation of some kind, but in fact a major and indeed fundamental task of scholars, who were deeply committed to the preservation and perpetuation of specific cultural practices they regarded as relevant and significant to the integrity of the epistemologies in which they operated. We know that scholars in the past forged ahead with multilingualism even though the communities around them were not necessarily multilingual and even in spite of the fact that they served dynasts who were not polyglot.

The first lesson that I derive from examples from the deep reaches of the early modern period is that scholars should cultivate a multilingual approach to the humanities, unless we do not want to impoverish the

humanities to the degree to which they will be just a pale imitation of the societies which they purport to serve today. I contend that it is precisely by activating sensibilities in favour of multilingualism in the humanities that we can in fact hope to do greater service to societies, not only those in which we live and to which we belong either by birth or profession, but also those whose past is the object of our study. In recent years, I have had the good fortune to work in libraries and archives located especially in Central Asia and Russia and I happen to have worked with records in manuscript forms produced in the languages of my expertise, i.e. Persian, Turkic, and Arabic, together with Russian and Old Church Slavonic. And it was on such occasions that I could take advantage of the opportunities inherent to the mastery of foreign languages. The opportunities which I have in mind manifested themselves every time someone – whether a fellow historian or a librarian – asked me why I had a particular interest in a given text. By accepting the invitation coming from my interlocutors and explaining to them what I was doing, I could effectively breathe life into and resuscitate an unknown version of local history which official

narratives, stubbornly premised on the hegemony of national languages, had obliterated and consigned to oblivion. That is to say that by cultivating multilingualism, scholars in the humanities are best positioned to fulfil the task of complicating dominant narratives, exposing the silences of hegemonic interpretive paradigms, and thus to push societies to reflect on the hierarchies of knowledge informing their collective behaviour.

But as we shed light on the importance of mastering a variety of languages to be able to excavate archives and confer sense on what we find therein, a further challenge presents itself: what is the status of philology in the humanities? Philology is the most global of all disciplines, for it has allowed historians to work across linguistic and cultural divides. It is ironic and indeed counterintuitive, however, to witness that an increase in global (academic) connectivity is not leading to an increase in financial support for this discipline, let alone in the creation of new spaces for its practitioners. In conclusion, I should like to note that in the recent past Sheldon Pollock, a prominent scholar of South Asian literatures, has proposed a definition

of philology as “the discipline of making sense of texts”. If texts represent (among other things) the most substantial remains of our past, only a truly multilingual philology can allow societies to make sense of their past beyond the constraints posed by monolingualism.

CONCLUSION

STEFAN MICHAEL NEWERKLA

I would like to recall six aspects from our discussion, which was also a bit emotional, because it concerns a matter that is highly emotionally charged. Languages connect all of us and have societal impact. So the first thing we said was that on the one hand, it is good to have a lingua franca like English, since it simplifies communication between people from different language backgrounds and creates a basis of mutual trust. But on the other hand, we have to think about the added value of the vernaculars, of the knowledge that they can convey about local and historical knowledge, the quality of learning and so on. Languages are not just technical means for communicating, but in hermeneutics, they constitute a core aspect of the work, and these

are the linguistically bound, epistemological traditions that we have to respect.

A second point was the comparability of research areas and branches. We have the feeling that research organisations and research funding bodies often want to achieve equality among all scientific branches, in particular with respect to the use of languages. But this is not really a reasonable idea. There are branches and research areas where we traditionally use more than just one language, especially in the historical and philological sciences. Where multilingualism has been, to this day, the norm, we should also ensure that the evaluation processes can potentially be carried out in several languages and not just in English.

The third aspect we raised in connection with the language issue was the fact that in our considerations, we often focus on research practices, which are mainly dominated by English. But an important determinant in the humanities is also the teaching practices. And there is a difference between the Netherlands and Austria. In the Netherlands, there is a really worrying development in this respect. In Austria, we still try to prevent our Bachelor's programmes

from becoming taught solely in English. We do not want that. But as we have just heard from the Netherlands, they are already teaching Dutch in English, more or less. So this is a development which we have to think about seriously, also from an Austrian perspective with regard to German studies. But why do our Dutch colleagues do that? It is because of the economic pressure that weighs on them. They have just a small number of students in the humanities. Now everybody knows that they have a problem on their hands. For example, if they have only ten students for certain language studies, then they have to reorganise their programmes and make them international and attract students from abroad in order to prevent the closure of these programmes. This, however, also means that they then teach such programmes in English. And this triggers a chain reaction. Having started some programmes in English, they had to adapt the other programmes too, because now they also needed the general introductions to linguistics, etc. to be taught in English. And with time, all their programmes came to be taught in English. Our Dutch colleagues lament this development, because it

goes hand in hand with the loss of detailed knowledge in the core subjects.

A fourth issue was the impact on civil society, on democracy and scientific discourse, because monolingualism does not automatically lead to equality. The national languages provide orientation to this day. We need the national languages in order to communicate with the respective societies. And if the fundamental works are only in English, such societies as a whole no longer have full access to these fundamental works and to this knowledge. What does such a development then mean for a social policy that is oriented around inclusive principles?

This brought us to the next point. It is a dichotomy, more or less. On the one hand, there is the urge for inclusiveness. It is really a nice feature of our societies that we want to be open to other people and new ideas on the international level. For this purpose we use English, in order to include people from other language backgrounds. And in a time of global problems it is important to be inclusive. However, on the other hand, and not only in the humanities as we heard, we are confronted with the fact that using English does not mean

that there is no longer any exclusiveness. One colleague from the audience noted for instance that in ERC grants applications, English speakers have an enormous advantage because they can express themselves quite naturally and can write fantastic applications with very differentiated language, whereas colleagues from Eastern European countries or Spain often have difficulties doing so and also lack the same quality of research funding services enjoyed by their colleagues from the United Kingdom. The ability to express oneself in the native language simply produces much more convincing applications. We also heard statements from colleagues in the audience that writing in English does not automatically mean that one will then also be considered and cited more often. There are some citing circles that cause the works of Anglo-American scholars to be cited with a higher probability than publications written in English by European scholars if they do not publish their findings in the main journals from the Anglo-American world. As long as one does not publish in the allegedly right journals, one can write in English as long as one wants, the reception of the articles will most likely remain within

certain limits all the same. However, these relevant journals are interwoven with the scientific culture and traditions of the Anglo-American world and it is hard to get a foothold in this scientific landscape from the outside. Being internationally inclusive and using English for this purpose does not suffice to overcome these difficulties and get around this exclusiveness of certain scientific circles and peer groups.

The sixth aspect is linked with that, visibility. In the humanities, we also have to differentiate between visibility in the scientific community and the societal impact of area studies. This issue was raised at the end, and I believe it is also important. When we talk about multilingualism in the humanities we often think of an approach that is not only English. However, while in theory we respect the equality of all languages, we consider it imperative that pragmatic solutions must be found to avoid unnecessary waste of resources. So we implicitly assume that we should also use German, French, Italian, but we ignore so many other languages. As our colleagues from musicology as well as from Oriental and Iranian studies aptly remarked, in some research areas it is really

important to publish in Russian and other languages to get the societal impact wished for. This can be much more important for the visibility of research results than if one publishes some article in English just for the relatively limited scientific community. But the research organisations and the funding bodies do not sufficiently recognise and value this kind of work that most importantly promotes and makes use of cultural diversity.

Last, but not least, several colleagues enriched the discussion with an appeal for more authentic communication and at the same time for more translation facilities. They emphasised the advantages of authentic communication. People should be able to speak in the languages they are really competent in, because otherwise there would be a loss. If scholars are not constantly involved in a foreign language or speak it by second nature, they cannot be as precise and exact as scholarship implies or demands. And then their work could appear to be just a popular digestion of something that is not worth listening to.

To sum up: we are in agreement that our common aim is to ensure that there is an ambitious and comprehensive policy for the preservation

of multilingualism in the humanities. From a global perspective, multilingualism is the norm. Linguistic and cultural competence in more than one language is therefore not only vital to individuals and societies for facing the challenges of increased globalisation and understanding other cultures and modes of thought, but also an indispensable necessity for excellent research in the arts and humanities. Here, interpretation and orientation are closely bound up with linguistic cultures and their epistemological traditions. On the other hand, the ever-increasing use of English as the lingua franca of science undermines this linguistic-cognitive plurality and thus puts at risk the role in providing orientation that the humanities must perform in a social context. Hence, it is of central academic and political importance to develop a strategy for maintaining linguistic diversity in the humanities in Europe.

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PANEL 5

THE ACADEMY BEYOND THE CAPITAL

Chair:

Matthias Karmasin, OeAW

Panellists:

Marc Groenhuijsen, KNAW

Rivke Jaffe, KNAW

Bernhard Jakoby, OeAW

Kristina Stoeckl, OeAW

Werner Piller, OeAW

INTRODUCTION

MATTHIAS KARMASIN

Many academies of sciences have a historically rooted bias towards the capital – with regard to the composition of their membership as well as their activities. The recent debate on the third mission and responsible science has also challenged academies; questions arise as to whether excellence and cutting-edge research are mainly to be found in the political and economic centres and whether it is justified to concentrate public outreach activities in the capital.

The question to the panel was what is the situation in the respective academies and what is necessary to meet the present and future challenges in this area? We started out with the question whether it is also a relevant topic in the Netherlands and what the experiences in the Royal Academy “beyond the capital” are.

MARC GROENHUIJSEN

I am delighted to be part of this panel. When the topic was announced, initially I was actually disappointed to be assigned this responsibility. The reason is that, to be quite honest, I

was not really impressed by the relevance of the subject matter touching on “The Academy beyond the Capital”. In my home country we do not perceive this as one of the pressing problems of our time.

But then, of course, as is befitting someone who is versed in academia, I started to think about it with an open mind. One of the first things I learned is that in Austria, some 50% of the members of the Academy are from Vienna – from the capital city. Which is completely different from the situation in the Netherlands. In our country, there is a significantly higher level of regional representation. So, I can imagine that in Austrian circumstances it is indeed a real issue to be addressed in some detail and with a sense of urgency. Real or perceived overrepresentation of members residing in the capital city may compromise the credibility and the legitimacy of the Austrian Academy. It could even lead to accusations of unwarranted elitism. Looking at it from this angle, all of a sudden the topic of this session assumes a new dimension, touching on the “raison d’être” of all learned societies. The next step involves attempting to contextualise the question. As a starting point, this means gaining an

impression about the differentiation of the universities within Austria as compared to the situation in the Netherlands. We live in a very small country. Yet we have no less than 13 universities, which is quite a lot. It is a large number per capita. And they have one thing in common. Which is that we do not have an established hierarchy in terms of quality between the universities. Naturally, most researchers feel that they are part of the best, or the top three universities. When I was employed by Leiden University, which is the eldest and probably one of the most famous universities of the Netherlands, with over 400 years of history, it proved to be a case in point. Much to my surprise – as an alumnus from another university with a long and rich history – most of my colleagues there claimed that we were the best of the best in the Netherlands. The only thing that surprised them is that all Leiden researchers felt that way, but they could not understand how nobody outside of Leiden shared that assessment. For me, that was an eye opener.

Academic culture in the Netherlands is different in this respect from what we see in the United States or in the United Kingdom. We all know that in the USA, there is a huge difference

between the East Coast and the West Coast on the one hand and some rather obscure universities in remote places on the other. For the sake of courtesy, I will not mention any specific examples of the latter variety. In these circumstances, it makes sense, it is understandable that a vast majority of the members of the Academy stem from the elitist universities on the East Coast and the West Coast.

Alternatively, the Dutch academic landscape is composed of 13 universities which are all considered to be of internationally high-ranking standards. This was confirmed by an essay written and published by the president and the vice president of the Dutch Academy, the main thesis being: “Some countries stand out in particular disciplines but are less prominent in others. That does not hold true for the Netherlands. On the contrary: the country performs well in every discipline. The Dutch scientific landscape has been compared to a ‘high plateau’ with occasional peaks.” (José van Dijck & Wim van Saarloos, *The Dutch Polder Model in science and research. What allowed the Netherlands to punch above its weight? How should the country build on that achievement?* Amsterdam: Royal Netherlands Academy

of Arts and Sciences 2017, p. 19). In this essay, it was also highlighted that the Dutch university system is not entirely based on competition, as is seen in many other countries. Given the geographical closeness of most universities, it makes mutual cooperation relatively easier to achieve. Consequently, the president and the vice president even spoke of “the Dutch university” as a singular unifying concept, which is quite alien to most other countries. “The Dutch university” meaning that we tend to focus more on what we have in common than on the issues that divide us. That really is an important feature for understanding our university system and our academic climate, in which the difference between the capital city and the regions are less fragmented and distinct than in other countries. As I have already outlined, this is also facilitated by the size of the country, which makes it possible to travel from one city, from one university, to the other within an hour and a half.

I need some more words to explain the situation in the Netherlands, because so far, it reads like an advertisement or a pep talk. Of course, this is not the full picture.

Upon further reflection, I discovered that we do have to face similar chal-

lenges like the ones described by our Austrian colleagues. And challenges, as always, is a euphemism for problems. Because there are, even in our country, significant problems when we compare the capital city to the other regions. There are some inequalities which cannot be denied. Personally, I am convinced there is a strong lobby from different sides. For instance, by the four traditional old national state universities, Groningen, Utrecht, Leiden and Amsterdam. And we have a bloc, an axis which we call the Randstad, which is constituted by the western part of the country comprising an area between Amsterdam, The Hague, Leiden, Delft, and Rotterdam, probably stretching onto Utrecht. Arguably, this region can be considered overrepresented within our Academy, to the detriment of the younger universities in the Netherlands, such as Maastricht.

There might be more similarities in the problems we have to face than appeared to be the case at first glance. Allow me to present another example. The Royal Academy in the Netherlands maintains 15 national research institutes. 15 institutes, compared to the 28 in Austria, as I understood it this afternoon. Nine of

these are based in Amsterdam. That definitely looks disproportionate. It is a matter for consideration, reflection, maybe reconsideration. Then we have to acknowledge the fact that most of the Royal Academy events and activities take place in Amsterdam. I would say it is not only the majority, it is probably over 90% of all academic activities organised by the Royal Academy that are taking place in Amsterdam. And travel distances – even if they are negligible compared to the situation in other countries, as I have just explained in the framework of “the Dutch university” – are certainly an obstacle to participation for many of the younger members, active members, because they are already overscheduled in their own universities and they just do not have an opportunity to attend all these meetings, or a significant number of them.

So, in the final analysis, the question is: are there any avenues for improvement? I would say yes, there are. I have three concrete ideas to offer: The first thing to do is to raise some sense of awareness that we are confronted with the issue of “The Academy beyond the Capital”. Perhaps in the Netherlands we should start asking questions about a hidden

bias which actually benefits Amsterdam and the traditional old universities. Perhaps we should pay special attention to the younger universities in the regions.

Then I would argue for making some practical adaptations in the way we run the business of the Academy. During the past two years, we have organised a project under the umbrella theme of “The Academy into the Country”. That particular project was in fact successful and widely appreciated. However, it was not based on a thoughtful policy decision made by the board. Rather, it was forced upon us, because the famous building where the Academy is housed is under serious reconstruction at the moment. We were just forced by outside powers to go into the country, which in practice meant that the president and the vice president and some of the board members attended major events organised by Wageningen University and Maastricht University and several other universities. Today, I propose to reconsider having more events in the different provinces in order to create a better balance and offer members more equal opportunities.

And finally, I personally am convinced it would be advantageous to recon-

sider the geographical location of our 15 national research institutes. It is not wise to have nine out of the 15 national institutes located in Amsterdam, the capital city, so we probably need to develop a strategy for geographical distribution of our portfolio of research institutes. If we were to proceed along those lines, I think that we could partly address the problems that underlie the theme of this panel “The Academy beyond the Capital”. Yes, it would improve the credibility and legitimacy of our Academy. It would effectively undermine accusations of elitism. Proceeding along these lines, we can make progress, we can take steps forward, we can improve our standing in academia, we can increase our visibility in all 13 universities in our country. This is an admirable goal to aim at.

As a final comment, I also would like to speak about one of the other observations made about the physical presence of the Royal Academy in the regions outside the capital. It was mentioned by Rivke Jaffe that the Young Academy in the Netherlands has been very active, organising a project involving the members of the Young Academy going to secondary schools, which I think is a wonderful idea to promote the ideals of science,

to promote the inspiration of research, to promote the virtues of higher education. And I would, as a member of the traditional Academy and as a board member of our Academy, like to see this as one example – only one example out of several more – how the traditional Academy is increasingly learning from the Young Academy.

RIVKE JAFFE

At first, I thought, why was I invited to this panel on the academy beyond the capital? I am very much based in the capital of the Netherlands: I work at the University of Amsterdam and I live in Amsterdam. But obviously, the “oppressor” should also be invited to discuss the system of “oppression”. Even though I used to live and work in Leiden, at Leiden University, now that I have been living and working in Amsterdam for six years, I feel that it is a burden to travel outside of the capital. I think this bias is quite strong, and I think people in Amsterdam might not be aware of that, but many other people are.

There is a cluster, the “Randstad”, the traditional Western university cities (Amsterdam, Leiden, Utrecht, Rotterdam) versus the rest, the East,

which is maybe slightly different from the capital versus the rest in Austria. My colleague Marc Groenhuijsen suggested that there is no hierarchy between Dutch universities. Indeed, it used to be the philosophy of the government that every university should be a top university, and there should be no hierarchy – it is an egalitarian system. But that has been actively dismantled. There has been an active government policy of encouraging competition, encouraging international and national rankings. This egalitarian idea that every university should be more than good enough has been forsaken for the idea of being better than, within our own country and internationally.

Marc Groenhuijsen also suggested that our university system does not suffer from the same internal hierarchies or elitism as the US or the UK. I tend to disagree: if you look at the national politicians in the Dutch Parliament, I think you will find that many of them, if not most, went to Leiden University or the University of Amsterdam. It is not so different from the UK, where almost all of the Prime Ministers in recent history went to Oxford, except for Gordon Brown, and almost all of them studied Philosophy, Politics and Eco-

nomics (PPE). In the Netherlands, many politicians studied history or political science in Leiden, or maybe in Amsterdam. Maybe in Utrecht, but that would be almost radical. Maybe if they are Catholic, if they are members of the Christian Democrat party, they might have gone to Nijmegen.

At the same time, it is true that our geography is quite different from Austrian geography in the sense that going from the medical faculty in Amsterdam to the humanities faculty can take longer than it takes to go from Amsterdam to Leiden or Utrecht or Rotterdam. So, to bike or to take the subway within the city can take as long as it does to take a train or to drive (if it is not rush-hour) between different cities in the same Randstad. I wanted to point out another part of the bias that probably plays a role, too. It is that on the one hand, the capital city has an international appeal. If you want to invite visiting scholars, even at Leiden, even though it is a famous university, Amsterdam has a certain charisma, a certain appeal: if you invite someone to come to give a lecture, to give a keynote, to be a visiting scholar for a month, they are all excited about the idea of visiting Amsterdam or living

in Amsterdam, in a way that I do not think they are about Leiden or Utrecht or Nijmegen.

Another part of the bias, I think, is that the news media are as lazy as anyone else, so much more attention is paid to student protests at the University of Amsterdam, scandals at the University of Amsterdam, exciting awards and prizes. I think there is a bias in the sense that many news headquarters are based in Amsterdam, and it is easier to bike, or take the subway, to interview a researcher than it is to go all the way to Maastricht or Groningen or Wageningen. Well, I think there is a skew there.

To end more positively, I want to focus on what the Young Academy does in the Netherlands. I think we have a more explicit policy than the Academy itself, to have a rotating geography of where meetings are organised. So, they are often organised in Amsterdam, but every other meeting is at another university, including Groningen or Maastricht. So, the location of the meetings really is rotated. At the same time (and this is a bottom-up initiative that is not promoted by the Academy itself), we see local Young Academies sprouting up at different universities which are modelled on the Young Academy in

terms of fostering interdisciplinary conversations and reflections on science policy. So these local Young Academies are developing at all the universities throughout the country. And these academies are linking to each other, looking at each other, but also talking to the formal Young Academy. This in itself I think produces a type of regional diversity and decentralisation that would not have come from the Academy itself. It had to come through more of a bottom-up development.

As a final note, I wanted to pose what is perhaps a typically Dutch blunt question: is regional unevenness really the biggest problem in terms of skew? Is regional unevenness more important than issues of gender, or ethno-racial inclusiveness (or lack thereof), or age and class? I would be interested in reflecting more on that.

BERNHARD JAKOBY

The representation of the Austrian Academy of Sciences in the provinces (“Bundesländer” in Austria) concerns both of its manifestations – the institutes as well as the learned society. My impression concerning the insti-

tutes is that, while there is certainly a numerical concentration in the capital, Vienna, some very visible and successful academy institutes are located in the provinces, such as the Johann Radon Institute for Computational and Applied Mathematics (RICAM) in Linz (Upper Austria), which also cooperates particularly well with the local university. This includes, for instance, cooperation when it comes to appointing new university professors, who are also involved in the Academy institute and, of course, joint research projects. As for the members of the learned society, the distribution is quite uneven, which may also be historically induced, as, for instance, the University of Linz is quite young (approx. 50 years). Since election as a member of the learned society evolves based on the present members and their academic environment, this has a certain influence, as was also discussed in the panel. However, the dominance of the capital in the sense that was reported by the Dutch colleagues, i.e. that virtually all members of the present and past governments have been alumni of the University of Amsterdam, in my opinion is not a problem here in Austria.

I have recently been involved in an initiative aiming to increase (or improve) the presence of the Academy in the provinces. On the one hand, this does address the issue that the Academy, i.e. both as a research institution and as a learned society, is not particularly well known to the general public (in the capital as well as in the provinces). On the other hand, due to the uneven distribution of members of the learned society, some colleagues expressed their interest in also gathering more frequently outside our capital Vienna, e.g. within the framework of interdisciplinary colloquia – here we had some fruitful strategic discussions with our colleagues from the neighbouring state of Salzburg, where somewhat more Academy members are located. Finally, the Academy considers it a “noble duty” to participate in the general promotion of science in the public sphere, including events for students and children. As a means to support this initiative, a series of local events have been launched which include a variety of different formats, some addressing specific groups or experts, some a wider audience. These events will typically be organised by the Academy and chaired by Academy members,

but the contributors themselves do not necessarily have to be Academy members. Examples include a series of scientific presentations for the public in rural areas, where joint organisation (e.g. in terms of location) with the local communities (municipality, town council, etc.) ensures representative participation. In urban regions, e.g. in cooperation with local art and science centres – these often have dedicated facilities for hosting very appealing presentations.

As an example, I name the Ars Electronica Center in Linz, which operates “Deep Space” – a presentation theatre operating a 16 x 9 square meter projection screen facilitating additional floor projection and 3D animations. We are also considering teaming up with other initiatives furthering young people’s involvement or at least their interest in science. This includes cooperation with schools but also international organisations such as the Institution of Electrical and Electronics Engineers (IEEE) funding similar activities.

We are currently gathering initial experiences with these kinds of events but already feel that launching this initiative can further the aforementioned multiple purposes at the same time.

KRISTINA STOECKL

Research at the Austrian Academy of Sciences takes place at research institutes across the country; Academy members are recruited nationally and globally. At the same time, the headquarters and the public presentation of many of the research results are concentrated in the capital. As a member of the Young Academy and a sociologist from the University of Innsbruck, allow me to offer some reflections on the strengths and the drawbacks of this constellation.

THE LEARNED SOCIETY

The members of the Austrian Academy of Sciences teach and research at universities and research centres in Vienna, Innsbruck, Linz, Graz, Salzburg, Klagenfurt and elsewhere, but the Learned Society is based in Vienna. Sessions, committee meetings and networking events take place in Vienna and very often require overnight stays. The administration is helpful in arranging travels, but for someone based a five-hour train ride from Vienna, it nonetheless means a tiresome commute and loss of precious time. On a day-to-day level, electronic means of communication could help to facilitate

the smooth integration of Academy members living outside Vienna into the operation of committees and working groups. Skype is obviously not the solution of choice here, hence my plea for the implementation of an up-to-date, secure digital communication infrastructure. On the Innsbruck side, at Innsbruck's Institute for Quantum Optics and Quantum Informatics (IQQOI), such a video conference room already exists and we would hope that Vienna on the receiving end will shortly follow suit. The unity of an academy spread out beyond the capital can also be facilitated by two more means: firstly, by shared effort. We just heard from our colleague from the Netherlands that the Dutch Royal Academy occasionally holds meetings outside the capital. The Austrian Academy has also experimented with the delocation of sessions to other Austrian cities. The Young Academy has actually made such alternating meetings a rule and annually organises Science Days, one year in Vienna, the next in a different Austrian city. A second element that creates unity and coherence is public relations communication. The Austrian Academy of Sciences does a very good job presenting itself externally as a rich and multifaceted

unity with which all its members can identify.

RESEARCH INSTITUTES

The Dutch Academy of Sciences has 15 research institutes, the Austrian Academy of Sciences 28. Innsbruck hosts two of these delocalised units, the Institute for Quantum Optics and Quantum Information with more than 100 staff members and the Institute for Interdisciplinary Mountain Research (IMF) with 34 staff members. Delocalised institutes face two challenges, which seem to be similar in the Netherlands and in Austria. These are the challenge of visibility and problems of overlapping competencies and administrations. In terms of visibility, the cutting-edge research that takes place at these institutes is often perceived by the public as "work done in Vienna", because the Academy is based there. High-level events that take place at centres of excellence like the IQQOI tend to receive lower attendance from Academy members than those in Vienna. This can be frustrating for the people working at the research institutes in the regions. In terms of management, the challenge for Academy institutes beyond the capital lies in overlapping compe-

tencies and administration. In Austria, Academy research institutes collaborate and are integrated into the research environment of universities. Staff members collaborate and often indeed switch back and forth between university and academy positions. For the people working in these institutes, this means that they find themselves in the crossfire of two administrations and academic bureaucracies, with potentially absurd consequences ranging from the inability to retain email accounts and server access to the right to use software licenses and other entitlements defined by changing contracts and institutions.

The Academy institutes beyond the capital are immensely important for the universities in the regions. They host research excellence of global significance, where the university – often overburdened with teaching – may tend to level out excellence. They have more freedom than university institutes, they tend to be better funded, they have higher standards of lab infrastructure. The spirit of the Academy allows high-risk and long-term research, where universities tend to play safe and look for faster returns. Disciplines like glaciology, which require observation

over long timespans, are better placed with the Academy, not the university.

To conclude my statement: the Academy beyond the capital means research of global significance and excellence, irrespective of the location. The Austrian Academy of Sciences has made the right steps in public outreach and communication to convey this. However, the administrative Vienna-centeredness of the day-to-day workings of the Academy weighs on individual researchers and academics. This is certainly a bigger challenge in a country like Austria, where the distances are farther than in the Netherlands.

WERNER PILLER

I share many of the points made by my predecessors. I am based at the University of Graz, 200 km south of Vienna. I am a geoscientist, specifically a paleo-ecologist. However, I also represent the community at large, being chair of two different national committees. I spent 25 years in Vienna and then moved to Graz for another 20 years. So I am aware of major differences between the two locations.

What has been said is true in most points. There is a clear focus of the Academy here in Vienna, there is no question about that, but also, the perception is completely different. As long as I have been at the University of Vienna, it has been very clear that the Academy is around everywhere. There are lots of activities going on, driven by the Academy, and there is an interrelationship between the University and the Academy.

In Graz, and this is my personal feeling, it is completely different. First of all, Graz has four universities, and there is one dislocated Institute of the Academy which is also in Graz, the Space Research Institute. And it is well established in Graz, in my opinion. However, there is a very clear relationship to the University of Technology, because there is an overlap in research interests, and therefore, it is a very close connection. On the other hand, being member of the joint Geocenter of University of Graz and University of Technology, I think that the perception of the Academy at the University of Technology is much higher and better than at the University. You get the impression that at the University, there is no interest in any collaboration, but there is even a kind of opposition between the University and the members of the Academy.

As someone whose professional life was always tightly interwoven with both University and Academy, I am convinced that it is important for these institutions to work together and forget about any kind of rivalries. It is to our mutual benefit, because cooperation will improve the quality of the research – especially in a small country like Austria.

CONCLUSION MATTHIAS KARMASIN

The panel discussed whether and in what way regional presence and visibility can contribute to the legitimation and acceptance of academies and which strategies seem appropriate in a rapidly changing societal environment. Marc Groenhuijsen from the Netherlands pointed out in this context that the accusations of elitism might hurt the legitimation of learned societies. With respect to membership of the learned society, the Royal Academy is more balanced regarding regional diversity. As there is only one type of membership (full membership), this lessens the danger of members from universities outside the capital being perceived as second choice.

But there is a clear bias towards Amsterdam when it comes to the location of the research institutes and the public outreach activities, over 90% of which take place in Amsterdam. Which is also for good reason, given the attractiveness of Amsterdam as a tourist destination and the proximity of many universities. Activities like “The Academy into the Country” and the scheduling of meetings of the Young Academy in rotation try to balance this. Due to the reconstruction of the Academy’s main building, they automatically had to move to the provinces, including the main assemblies and meetings.

The debate on the panel and with the audience showed that the situation in Austria is a little different but still mirrors the debate in the Netherlands. On the one hand, there is definitely a concentration of universities in the eastern part of the country, which contributes to a more numerous membership in this area and which implies a tendency for meetings and conferences to be held there. An idea might be that new technologies could help bridge the distance and include more members from other parts of the country. When it comes to membership, unlike at other academies,

membership in the Austrian Academy of Sciences has two categories (full and corresponding members), which also raises questions about regional imbalances – especially in the case of full membership. However, in the debate it also became very clear that regional diversity in the membership is important but not the only relevant diversity issue; age, gender and variety of disciplines should also play a role.

In Austria, the Academy of Sciences has a high regional variety in the location of the research institutes – even though there is always room for improvement, there seems to be satisfaction with the present situation.

Regarding the public outreach activities, the dominant role of Vienna as a political, economic, scientific, cultural and media centre has to be taken into consideration. Yet the panel agreed that it still should be the Austrian, not the Viennese Academy of Sciences.

In the closing debate on the panel and with the audience, the aspect of communication was highlighted. In both countries, the question of regional diversity is seen not only as one of legitimation, but also as one of social capital, as the honour and prestige of being a member is only

an honour and enhances prestige if the academic field also knows what the academy does and what it is. In this aspect, visibility and cooperation with all universities in the country are important. Also in this respect, modern digital technologies could help bridge the distance in order to make the Academy more interesting and appealing and to foster cooperation and to give members from dislocated universities an incentive to be more active.

In closing, there was consensus that an academy in the changing landscapes of science has to have active members all over the country, as a “Hall of Fame” with a strong bias towards the capital could endanger the legitimation of the learned society in general.

The three challenges identified should be part of future strategies:

1. The composition of the membership in the learned society. Here regional diversity should play a role (along with other issues of diversity such as gender, academic disciplines etc.). At first, it seems important to raise awareness as to whether there are any biases and that regional diver-

sity in the membership should and could be an issue. Even if a certain imbalance is unavoidable, given the specific academic landscapes and the nature of social capital in academia, the goal should at least be that no university is totally left behind.

2. The location of the research institutes. In this aspect, the regional differentiation is often easier to accomplish – but it seems important that affiliation to the learned society is clearly spelled out and demonstrated. Moreover, regional diversity in this aspect could not only be a way to increase legitimation but also holds some heuristic and epistemological possibilities in a more decentralised connection to society.
3. The public outreach activities and the assemblies. The debate showed that examples like the Young Academy in the Netherlands rotating their meetings and the need to dislocate meetings due to the renovation of the main building could also attract and promote the idea of the Academy beyond the capital. However, there are also challenges in sched-

uling and organising meetings for the whole Academy – or even division meetings – particularly when the majority of members are from the capital. Yet new developments like teleconferencing could be a way out. With respect to public outreach, there was consensus that even if capitals have a tendency to be attractive (especially when inviting guest lecturers and incoming fellows and researchers), there is a need to spread out and be more regional in orientation. Both the Austrian and the Royal Netherlands Academy have initiatives working to address this issue, but the key to success in accomplishing this aspect of the third mission is the motivation of the members and the capability of the respective PR departments. Which finally also culminates in the question whether regional diversification and outreach is a worthwhile investment. The answer given in this Joint Academy day clearly was yes.

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RIVKE JAFFE, KNAW, Professor of Urban Geography at the Department of Human Geography, Planning and International Development Studies and the Centre for Urban Studies within the Amsterdam Institute for Social Science Research. Prior to joining the UoA, she held teaching and research positions at Leiden University, the University of the West Indies, and the Royal Netherlands Institute of Southeast Asian and Caribbean Studies (KITLV).

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PANEL 6

DIGITAL HUMANITIES

Chair:

Arno Strohmeyer, OeAW

Panellists:

Antal van den Bosch, KNAW

Alexandra N. Lenz, OeAW

Ivona Brandić, OeAW

Lex Heerma van Voss, KNAW

Thomas Eiter, OeAW

INTRODUCTION

ARNO STROHMEYER

Today we live in a time of accelerated change in almost all areas of life. This is mainly due to the digital transformation, the change from mechanical and analogue technologies to digital electronics, which led to the emergence of a new digital world and the Information Age, similar to how the Industrial Revolution between the late 18th and 19th centuries led to the development of industrial society. Hence the digital transformation is known as the “Second Industrial Revolution”. Regarding the computer, we also talk of the “Second Machine Age”. The “First Machine Age” was the phase of rapid industrialisation at the turn from the 19th to the 20th century, for instance the expansion of rail and telegraph lines and new forms of steel production. In fact, almost everything is changing fundamentally and at top speed: the economy, politics, communication, media, working life, interpersonal interaction, education and medicine. This list can easily be continued. The change is by no means over yet. On the contrary, it may not even have reached its full scope. And it is unclear where it will lead. For some

it promises progress, for others it is a very critical process: “We are at the beginning of an era of which I am terrified,” said the Polish writer and philosopher Stanisław Lem in 1996. And further: “I am afraid of the so-called information flood.” Indeed, along with many positive effects, the negative consequences of the digital transformation are unmistakable: we are crushed by a flood of information and fight against the dissolution of our privacy. The extensive political and social change triggered by digitalisation poses a major challenge to democratic systems, as democratic institutions remain, but are at risk of being undermined by digital media and associated with a loss of political participation. The British political scientist and sociologist Colin Crouch speaks in this context of a development towards “post-democracy”. Will artificial intelligence turn people from rulers into subjects? Will authoritarian democracy with control over the digital world become the dominant model of the state?

Science is involved in this process in three ways:

1. First, it has caused the change and is one of its foundations, since

science has created the technical conditions of the digital transformation since its origins in the 1940s and the rapid spread of digital technologies from the 1980s onwards. New digital technologies are constantly providing further impetus.

2. Secondly, science is directly affected by the digital change, because the ongoing digitalisation of all areas of our lives is also bringing about a comprehensive transformation in all disciplines, including the humanities. New ways to collect data and produce and disseminate knowledge have emerged and are still emerging. Keywords such as “open science”, “citizen science” and “open data” illustrate this. The consequences are, for instance, new methods of analysis with enormous innovation potential: distant reading, text mining, natural language processing, topic modelling, etc. Thus, the humanities are facing a serious challenge: for while this opens many opportunities for development on the one hand, on the other it means that researchers must become familiar with new methods and technologies.

Basic methodological patterns, work practices and organisational structures are questioned. The internal disciplinary organisation of work has also changed: computer specialists must be involved in projects, IT competence must be acquired through cooperation, teamwork is gaining in importance. Dissemination strategies are changing due to new forms of publication. The collected and printed volume, a central medium of publication in recent decades, may soon have had its day. There is currently a tremendous dynamism.

3. Science is still involved in the digital transformation on a third level, because it provides the tools to better understand and to analyse it. In recent years, many books have been published that attempt to investigate the historical roots of the digital revolution, examine its causes, analyse its progress and make forecasts for the future. There are several theories of digital transformation. The number of editions and translations shows the great public interest in these questions. The extent of self-reflection that these works express is unique.

This threefold integration makes digital transformation a major challenge for the sciences, and of course, especially for scientific institutions, but it also offers many opportunities. The aim of the panel is to draft a critical outline of the role of the digital humanities in this process. Four comprehensive thematic complexes can be defined:

1. The change brought about using computers is described as the “digital revolution” or “digital transformation”, as it has transformed practically the whole of society at an incredible pace. It has, of course, many advantages, but also disadvantages. What role should the digital humanities play in this process?
2. The digital humanities make ever-increasing quantities of data available but also facilitate new forms of analysis and dissemination. Where do you see special potential for development for the humanities?
3. To what extent will the digital humanities change the organisation of the humanities? Are there any signs of liquefaction or even

dissolution of traditional subject structures? How can we integrate the digital humanities into the traditional disciplines?

4. There is increasing public pressure on the humanities to legitimise their existence. This applies above all to basic research. They are required to demonstrate how they are of use to society. To what extent can the digital humanities support the humanities in this?

We live in an age of change. Fundamental processes such as globalisation, climate change, advances in biotechnologies, the restructuring of the international order and digital transformation are changing our lives. This is associated with enormous threats: terrorism, growing inequality, ecological collapse, the questionability of an economic order based on growth, the ageing of society and loss of authority through artificial intelligence. The Swiss media scientist Felix Stalder published a book on *The Digital Condition* in 2016. A chaotic and constantly growing information sphere is bringing down the established cultural order. The result could be a post-democratic world of surveillance and externally

controlled monopolies of knowledge. To overcome all these challenges, orientation is necessary. Precisely this orientation, however, becomes more and more difficult due to the great speed of change, which is constantly increasing. The present is getting shorter and shorter. This in turn increases the significance of the humanities, because they help with orientation, they can create identity, provide guidelines for action and offer support. The political and social significance of history, for instance, has increased since the 1990s. People are addicted to the past, storing, collecting and meticulously reconstructing everything. The number of museums, monuments, memorials, historical movies and books is increasing. The heritage industry is booming. Another task of the humanities is to criticise and control the digital transformation, because its dark sides lead to problematic developments in social and political life. It may divide society, create inequality and destabilise the existing order. Furthermore, the humanities should look more closely at the ethical dimensions of digital transformation. This gives the humanities the opportunity to come closer to the needs of the public. This is rein-

forced by new forms of knowledge creation such as crowd sourcing and open science.

The possibilities which the collection of data, their machine-supported analysis and new forms of dissemination of the results offer for the humanities cannot be estimated at present, not even vaguely. It is clear that they are tremendously large and that they can lead to a revolution in working methods. The future will show in which direction the path will go. In my opinion, tools for the analysis of large amounts of text have great potential (text mining etc.). There is a lot of research going on here now. Digital methods will lead to new research questions. However, a problem is the short lifespan of electronically stored information.

Digital change is also affecting the internal organisation of the humanities. It is a complex process that takes place on different levels and at different speeds. To speak for my subject, history: computer-supported methods have vastly gained in importance in recent years and will continue to do so. More and more research projects have a digital dimension. The changes in the accessibility of data are particularly noticeable. However, only a few representatives of the sub-

ject have comprehensive competencies in computer science, as there are only a few computer scientists with competence in history. It is only in recent years that greater consideration has been given to this issue and digital competencies have received more attention in academic education and it is important to establish more chairs for digital humanities at the universities. Therefore, interdisciplinary cooperation with specialists from the IT sector has taken on great importance in recent years. Hence, increased costs must be considered. Digital cooperation often makes research more expensive. Source editions, for example, have become more elaborate.

ANTAL VAN DEN BOSCH

Coming back to the “digital revolution” or “digital transformation” and what role the digital humanities should play in this process, I have a very particular answer to that, and that is that we need digital humanities to help the tech industry get their act together. So, we have Google and Facebook and the other big tech companies influencing all of our lives massively. They do not understand

what they are working with. They are working with cultural data, with language, with behaviour that we have been studying, in the humanities, for a long time. And actually, we can explain certain problems and biases and issues that we have with language, with culture, with differences, with variation, that computers have a pretty hard time handling. So, watching Mark Zuckerberg being questioned by the Senate some time ago clearly showed a prototypical case of a tech giant who is coming to grips with this problem slowly, after just making something that works. That is what engineers do. They make something that works. And later on, they discover that, well, actually, if humans are involved, then things start to be complicated at some point, and you have to understand, if you want to build intelligent machines that actually deal with language and with humans, then you really have to get the humanities in. So, that is more like making AI more culturally aware than strictly digital humanities. But I think that this is actually a purpose that is staring us in the face right now. So if we want to do something, we should blend with the big tech developers.

When Microsoft released a chatbot, after one day it was saying racist things, because it was fed with data from the web. It is something that we can, for one, predict will happen, and also, we can help them detect it. Part of the digital humanities is also creating computational models that can actually detect emotions and biases in data. So, not detecting credit card fraud, but detecting racism. Not detecting something physical, but actually detecting something cultural. Mark Zuckerberg said that they were now able to detect terrorist messages with 97% accuracy. And within five or 10 years, he hoped to detect toxic language, and racist, misogynist language. Well, good luck. He should hire as many of our people as he can right now.

In science, it always has been like this. With new tools, new possibilities have arisen. Take astronomy – the invention of telescopes, for example, was a big step forward. And it actually had this flowback, actually from the astronomers, with their needs, what they wanted to do, and created the development of new instruments. And this will be similar with the humanities, with the digital humanities, because you need to understand: what are the needs, what

are the new possibilities for research and science and the humanities that can then also foster the development of new means and tools in computer science, in collaboration? So that is something which in my opinion is a very interesting and a very exciting perspective.

Coming back to the very first question on the role that digital humanities can play, I also wanted to emphasise, that this can help us understand what is going on in this kind of transformation, what is going on in the social media that are coming out of the blue. To control, or in some cases to monitor, and also to give information, then, and conclusions about it, to the public and to the stakeholders, in order to take measures, so to speak. And for that, of course, it also would be important to get the data, because the humanities depend on data. In order to be able to do these kinds of investigations. But without that, it actually would not really be possible.

I supervise two PhD students in literature; modern literature and 17th-century literature. They both have clear research questions, really pure humanities research questions, very different ones too. So, they first started using tools that they can

download. And they come back to me with the questions: did I do the analysis right? How to interpret this? And then we talk, and then we dive deeper, and before you know it, they will just ditch the software that they downloaded and start programming in Python. There are good courses in Python also for humanities scholars these days, and they pick it up. It takes them a few months. And then, they have written their first Python programme, and then the next, and then the next, and they become skilled in no time. I see that happening everywhere and I encourage that too. They have to experience it first, before they see the need.

The digital humanities can serve as a mediator. And actually, to reach the public, we can use visualisations, or representations, in some way, in order for people to get engaged, because in the end, you must raise some interest. This would be a first step. That there are platforms, portals or whatever, that are available, and you have to try to touch the people at different levels. This might be a societal level, but it also can be on an individual level. That people stumble on something through curiosity and serendipity, which gets them interested in something. Video games can be very

attractive today as means to show our work. I see it with my children. They play these ancient battles, and it is actually stirring a lot of interest in them in history. So there are possibilities, in this particular case, for kids, to get them interested in certain matters. And this is also something to consider, if you really want to have some outreach, and to interest the public in research that is done in the humanities. Not everything has to be on the societal level, because we have heard a lot about society today, but there is also the individual level. Because if you think about gaming, this is not something for social activity, it is for your own pleasure. And maybe then also for your own curiosity.

ALEXANDRA N. LENZ

As a linguist I am particularly familiar with digital humanities in the sense of digital linguistics. Whereby digital linguistics in general refers to linguistics that uses digital methods and tools during the entire research process. This implies, firstly, processes of generating and surveying or collecting language-related data (the survey of (oral or written) lan-

guage data, for example, is a complex process in which plenty of digital and computer-supported methods are used); secondly, the preparation and enrichment of data (including various types of transcriptions and annotations); thirdly, the analysis of research data and interpretation of results; and fourthly, the digital resourcing, making available and publication of the surveyed, prepared and enriched data. At least in linguistics, the term “digital linguistics” becomes more and more of a pleonasm as it becomes increasingly self-evident that digital tools and methods are or are increasingly becoming an inherent part of everyday linguistic research.

Especially in the process of making (linguistic and other) data available and accessible, digital humanities play an important role as a mediator to reach circles outside of the narrow research communities. The central future role of digital humanities has to be seen in such a linking component, not only between the more technical-computational paradigms and the humanities, but also between the humanities and the public-social domain. Since programmers and (human) scientists often speak “different languages” (in terms of

problem description and theoretical and pragmatic approaches), digital humanities have to “translate” between those perspectives. It is essential that they also can “translate” both approaches for the public, since they have to break down complex terminology, models, structures etc. from both worlds for the respective other “world”, meaning they have to explain and depict the basics of “a humanity” to programmers or vice versa. Explaining those basics to the public is slightly different. Digital humanities have to ensure that the usability of research tools is intuitively easy and at the same time fits all the needs of the scientists (and their ordinary workflow): the best expert system is one which doesn’t need experts to use it. Therefore designing tools for scientists is designing tools for laymen (or the public). Vice versa: the various theoretical approaches of scientists are often very complex, you need experts to understand them – breaking them down for programmers so that they can implement the functions etc. which the scientists need is breaking those theories down for laymen. Digital humanities as part of the “digital revolution” not only mediate between experts and the public,

but are also mainly responsible for providing research data and research material, e.g. by means of digitisation. This, however, provides not only accessibility of knowledge for a broader public but also the material for independent research efforts for non-scientists or an interdisciplinary audience. Hence, it should be part of the self-concept of digital humanities to not only promote open data and open science but also to be a part of the open source community (keyword: sustainability, not in terms of data storage, but the use of research efforts). Fortunately, we can currently observe increasing cooperation and interdependence between these three groups of participants (technicians, scientists and the interested public). When we talk about publication of linguistic data we are dealing of course with special ethical issues, as language – often more than other kinds of data – is a very intimate, personal type of data. The anonymisation of a voice is not possible without distortion and therefore loss of information. In my opinion, linguistic data are an excellent showcase in the discussion about ethical issues in the context of digital humanities. These ethical issues have to be integrated into our digital humanities teaching curricula.

Digital humanities can change the organisation of the humanities by raising awareness for digital matters and issues. Many projects in the humanities already need digital tools for successful ending. Be it in terms of data handling or analysis or be it simply in terms of publishing the results or data. Nonetheless, the humanities sometimes lack awareness of the digital aspects of their research projects. We need to raise awareness of those means, that researchers can change project structures in that they plan human and technical infrastructures which match their needs, e.g. by creating positions for digital humanities and programmers and budgeting for software costs, server infrastructure etc. In a second step, it should be self-evident that the humanities consider those technical and personal needs, and that digital humanities only provide the interface function (cf. above). Research in the humanities is already only possible with at least a basic technical setting; the trend is towards the dissolution of the question. It depends on the definition of “computer sciences” – but the humanities will be a computer-based science, in terms of working with digitised data, with digital tools etc. Since classical “computer science” (in

the narrow sense) studies the theory and engineering of design and the use of computers, digital humanities can contribute to this research field. According to the specific discipline, the research will need to collaborate with many aspects of data science, and different fields of informatics (technology & theory). The “digital revolution” (not necessarily DH) has already changed all academic research by providing online content, the accessibility of (research) literature etc. Online publishing leads to a broader audience, to easy access and overall to a faster knowledge transfer. At the same time, open data and open science leads to more potential data for analyses, or to a (global) exchange of methods, and thereby to more comparable data. This all changes the approaches to a research object (or even research field), leads to more global structures and less hierarchical (communication or even property) structures.

IVONA BRANDIĆ

Computer science is currently undergoing a major shift and becoming a fundamental science necessary for conducting other sciences ranging

from archaeology to physics. Digital humanities are a wonderful example of this shift, where new branches of the science are developed as a fusion of computer science and other disciplines.

Computer science gave us various tools, and today the humanities are using those tools to perform science. The challenging issue is that with digital humanities we cannot just deliver tools as computer scientists and expect someone else use them. We have a completely new branch of science in which we have an intersection between computer science and something else, e.g. between linguistic and computer science, between law and computer science. And it is not just enough to develop tools. We need someone who understands both sides, to deliver valuable answers. Just one simple example: computer scientists can create digital twins. It is a complete replication of a building in a digital form. Every state of the building has a digital replication like the temperature in every room, or oxygen level in every room. Based on the oxygen level of a room one can deduce the number of people so the air supply can be controlled automatically. For computer scientists, it is a digital representation of a room and

we can use it to further process the data. But for a lawyer, it means something completely different, or for someone who is working in the field of history it would mean something completely different again.

The example with the digital twins describes the areas of conflict. If we just leave computer scientists working on this area, we will have completely different developments than if we work together with other scientists. Digital humanities should merge these fields.

What we have to stress here is also the levels of trust that vary across different scientific fields. Scientists working close to computer science like theoretical physicists or theoretical chemists usually want to understand the code and be able to change it. In other scientific fields that are not that close to computer science, scientists have to trust the developed tools and code.

Development of a common language (lingua franca) for scientists to express their scientific problems would be a major goal in order to foster development of digital humanities. Common language represents the cornerstone of the future interdisciplinary activities. A more provocative assumption would be the

comparison: as mathematics is the lingua franca in the natural sciences and has been for centuries, in the future computer science (or computational thinking) will be the lingua franca for digital humanities and for the humanities in general. The students do not necessarily have to learn how to code Python or other programming languages, they have to learn about computational thinking: how to develop problem-solving strategies using computational tools. Computational thinking is not just about programming, it is much more than that, it means decomposing scientific problems into meaningful small pieces that can be processed with computational tools. If we have computational thinking as part of the curriculum, then the future researchers will be much better equipped for challenging scientific questions.

Another advantage of making experiments digital is the access to all tools and methodologies that are well known in computer science. One can create experiments, set up the experimental environment, and based on tracking, whole experiments are made reproducible. So even if failures occur, these failures can be reproduced. Thus scientists can learn from failures, and this is something

very, very valuable. It can be seen as a positive effect that failures happen and that scientists can control them.

LEX HEERMA VAN VOSS

Now there still is a fundamental divide between the people who come from computer science and say, well, we have a tool, a technique which we can develop further, and which can do fantastic things – and they are right – and the people who come from the humanities and often say, this is fine, but the answer that you have now come up with is not really what my question was about. Or: the answer must be wrong. I know it cannot be right.

So, there is a debate going on, and the reason the debate is going on is of course that not only has our society been undergoing a digital revolution, but science is part of society, so we obviously are in the midst of such a revolution which is totally changing every aspect of our work. Let me focus on just one aspect, because our chair introduced it when he said “I do not understand what you are doing”. And, that is a typical humanities thing to say, because humanities scholars were raised to do close

reading, and therefore to understand their sources. Ideally, you had read all of the texts in the archives on your question, and you had read them with your own eyes. The digital revolution means that you will use tools to do distant reading, you will work in teams with people who do things that you do not understand, and that alone, which is only part of the digital revolution, that is a revolution in the humanities.

But there are also, on every level, things that humanists know, and always are aware of knowing, but which are essential in helping the computer scientists develop their work. My favourite example is that you never have to explain what an event is to a historian, but not everything that happens is an event, and this is quite intuitive and it is very hard to programme this kind of knowledge.

The solution is that more students should take it up, and if they realise that we are in need of a whole generation of teachers and researchers in digital humanities, they will take it up. On the long term, this is no problem. It will be solved in a couple of years. We see the speed of this development also outside academia. For example, people use the infra-

structure of the humanities, archives, libraries, to do research on the genealogy of their own family. And they are adopting the new technology as fast as scholars are, because now they can use digitised parts of the population register, or they look up their family name in digitised newspapers. So genealogy today is totally different from what it used to be 20 or 30 years ago. And there are a massive number of people who are using the infrastructure for their individual, private enjoyment. But they also get to know a lot about the past while doing so.

The traditional way of solving a question in the humanities was reading about it and coming to a conclusion and then you wrote down that conclusion and quoted from what you read. So if my question were “How did feelings about Britain develop in the Netherlands in the 19th century?”, I would read lots of newspapers and debates in Parliament, and then I would say, well, the Dutch thought very positively about the English at the beginning of the century, and would quote some examples, but very negatively at the end of the century. Which I would also show in some quotations. This would be explained for instance by the Boer

war, when the British fought against the South Africans who had Dutch connections.

Now, if you do it in a computational way, you will define some words as negative and others as positive concepts, and you will automatically read all the newspapers for the whole century, and all the parliamentary debates. This will produce an answer which partly says probably the same thing as I just explained, positive at the beginning and negative at the end. But the digital approach will tell you more about the change, because you will be able to consult all the newspapers over a century. If you read these newspapers yourself, you will only be able to read the sources for the beginning and the end of the century, when you know that there is a reason to expect changes in opinion, and perhaps for a small number of critical years in between, but never for the century as a whole. The digital approach thus enables you to find unexpected or gradual changes.

The digital approach is also more scientific, as the analysis can be easily reproduced or slightly adapted. If somebody suggests that you have not included some of the essential words in your vocabulary, or that you have written the algorithm the wrong way,

you can change it and perform the analysis again. That hardly ever used to happen in the humanities, because it was too much work. If the answer was more or less plausible, nobody else would go and read all those newspapers again. That would only happen if there was a fierce debate and some scholars thought the original answer was not plausible. So the humanities in this revolution are becoming more scientific in the common-sense meaning of the term. There were areas of the humanities to which this approach seemed much more logical than to others. Among the early adopters were linguists, and socio-economic historians, who already tended to formalise their data more than other areas in the humanities. And that is perhaps, in a way, similar to the distance between the quantitative and qualitative approach in the social sciences. But I think it is also true, as our chair says, that this will revolutionise the humanities, and this is going to happen quickly. The computer knows how to sing and how to recognise songs, how to analyse paintings and tell you what is in them as soon as it has decided what are teddy bears and what are muffins. In the end, it will outrun most of the established

methods in the humanities, in the same way that you can still travel by horse from one place to another, but not many people do so anymore.

Another example: a couple of years ago, a highly trained scholar analysing an anonymous work attributed to Erasmus decided that a certain text against the pope was indeed written by Erasmus. It took her seven years to do that. Just out of curiosity, I asked some of my colleagues: how much time will it take you to train an algorithm to do this automatically? And they said, about half a year. The final stage is literally one push of a button, but you need to prepare your materials for half a year. And this is increasing in speed as we speak.

As I am the director of a research institute, it matters to me whether it takes seven years or half a year for a highly trained scholar to find out something. And the answer to the Erasmus question is basically yes or no. He wrote that text, or he did not. And if I can get an answer of the same quality in seven years or in half a year, it matters.

If you had asked me ten years ago, I would have said that it would be impossible to read 16th-, 17th or 18th-century handwriting automatically. Today we do it with an accept-

able small amount of mistakes. Therefore, I expect that there won't be much left unchanged. But also I have to agree that there will be areas where we will need the quality of the human eye forever.

THOMAS EITER

Digitalisation is really one of the big changes that has been starting and will penetrate all areas. It will transform our society as a whole, but also the life of humans at the individual level, and the way we communicate, the way we work and how we spend our leisure time. I think that digital humanities should face these changes and contribute to gaining an understanding of this ongoing process of a "digital revolution" to the greatest possible extent, and put us in a position that enables us also to predict possible future developments and scenarios.

As a matter of fact, a lot of data is available, and the use of automated tools and newly developed methods and techniques will be necessary in order to cope with them. Analysis and prediction will be interesting and challenging from a scientific perspective, as there has hardly ever

been a similar transformation of the same pace and intensity. It could lead to a golden age of the social sciences in particular. The availability of digital technology and tools allows one to process data faster and also to consider more complex relationships, by taking aspects into account which would otherwise be too time-consuming, or even data that would add another interdisciplinary dimension. This could then lead to better and perhaps more sophisticated explanations of observations or answers to questions; migration or historical developments may be better explained by taking into account, besides ecological and economic information, data about climate and health, for instance. Furthermore, tools provided by visual analytics, for instance, could aid in developing new hypotheses from observations on the data that are available. The potential for the development of the humanities due to the advent of digital tools is really huge; it may be in a sense comparable to the development in astronomy when telescopes appeared.

As regards the organisation of the humanities, in my opinion digitalisation will certainly have a considerable impact on it. I have limited

insight and experience with the rich and diverse field of research in the humanities, which makes me hesitant to believe or even consider that research in the humanities will be only possible in collaboration with computer scientists. It will definitely, however, be more difficult to achieve and disseminate cutting-edge research results without the use of digital technologies. Furthermore, teamwork will become more important. In my opinion, collaboration with computer scientists is only the beginning of a development in which new generations of scientists will emerge who are trained and skilled in the use of digital tools, and who will have an understanding of the theory and the work behind them; and some researchers will even focus in their work on creating and developing advanced and novel tools, in collaboration with computer scientists. In any case, I think that knowledge about computers and their capabilities will be indispensable for every scientist, not only in the humanities. Children grow up in an increasingly digitalised world and acquire some basic knowledge about computers and informatics at school. This knowledge, which at least in our country could be signif-

icantly improved, should be further enhanced and increased at university. To this end, the curricula should be revised and courses on informatics incorporated that convey general knowledge and skills but also skills specific to a discipline.

There is indeed growing pressure for the humanities to legitimise themselves in public, and to argue about the “usefulness” and “applicability” of knowledge and project results in the humanities has even become a requirement of some funding agencies (among them the NSF, at least for some time). I think that there is a great opportunity for digital humanities to show its beauty and usefulness in terms of insights and knowledge in what has been termed “consumable visualisations”. That is, by means of the new digital technologies in computer graphics, sound and vision, it is possible to convey scientific findings and results of the humanities to a broad audience. Many opportunities exist for this. To take a concrete example, in a certain computer game players have the possibility to take the roles of military commanders in historic battles. In the course of this, the players may learn not only some historical facts about battles themselves, but about

the culture, the society, the political context etc. Of course, this should not be overdone, but it is a means to raise awareness and interest in findings and insights from scientific research in history. This was just a small example; one can imagine consumable visualisations in a broad range of areas, touching many subjects and eras in history. This need not be limited to historic reality but could also consider counterfactual scenarios or even project into the future, simulating utopian worlds.

So I think that digital humanities can serve as a mediator or bridge between the traditional humanities and society. The use of digital technology provides the potential to convey and disseminate knowledge in an appropriate form to people in different customisations, be it for an individual, a group of peers, or for a society in its diversity. The new means of communicating scientific findings and results can be utilised in order to raise attention and interest, and also to make people wonder at some unknown and perhaps surprising facts. And it may serve to pique people’s curiosity, and in this way lobby for an understanding of the driving force behind science.

CONCLUSION

ARNO STROHMEYER

The discussions within the panel were wide-ranging, ultimately also a consequence of the multidisciplinary composition of the participants, and took place with the active participation of the audience. Of the topics discussed, three appear to be of special importance:

1. The humanities are undoubtedly on the verge of a digital revolution. However, there is disagreement about the extent to which digital change has already taken place in them. The range of opinions extends from far-reaching integration to – to put it succinctly – splitting traditional disciplines into “digitalists” and “non-digitalists” who, for example, don’t use computer-aided forms of text analysis, at least because they don’t understand them and have no basic knowledge of computer science. There is also scepticism about the interdisciplinary teamwork that is essential in cooperation between the humanities and computational sciences. New forms of publica-

tion are associated with this. In the discussions, it was clear that there are very different perceptions here, which can possibly be traced back to differentiated adaptations of digital methods in individual disciplines and within disciplines of the humanities. A particularly high degree of openness towards digital methods which has existed for a long time is apparently to be found in linguistics. In principle, change is likely to take place at different speeds. The relationship between qualitative and quantitative text analysis needs to be clarified. Digital methods can significantly shorten the workflow and improve communication with the public. The humanities understood in this way can also serve as a connecting link between computational sciences and the public.

Also, there were some critical remarks. The change of the humanities perhaps also has some disadvantages. One colleague from the audience said that high-speed means high-risk and perhaps a loss of quality. A further remark was that perhaps

automatic translation can create legal problems, because what is a good translation? What is a correct translation? However, there was a fundamental agreement that digital change must be accelerated at all costs, since it has great potential for all the humanities and offers many opportunities for further development. But now, it is not possible to predict where the path will lead. Will computer science develop into a lingua franca of the humanities?

2. The second point was the cooperation between computational sciences and the humanities. There is agreement that the humanities’ digital working methods are increasingly opening and are therefore currently in a dynamic phase of change. Cooperation with the computational sciences is generally perceived as very fruitful and promising for the future, but nevertheless it poses a great challenge for all participants, since different scientific traditions, theories and methods meet. Attention was drawn to problems of understanding and communi-

cation which could be solved by using a common “language” that is not always easy to find. In any case, it is necessary for both sides to approach each other. In addition, a certain basic knowledge of the working methods of the other discipline is necessary. For this reason, it would be very useful, for example, if humanities scholars had basic knowledge of algorithms and programming. This could be achieved, for instance, by integrating digital humanities more closely into university curricula. In any case, there is a great need for specialists who are suitable for teaching digital humanities. Therefore, it would also be important to establish more chairs for digital humanities at the universities, a development that is currently taking place in Austria. A special responsibility in this context also comes from non-university research institutions such as the Academies of Sciences. The Austrian Academy of Sciences must point to the Austrian Centre for Digital Humanities, which has developed into an important interface between the humanities and computational sciences.

3. The digital revolution is a fundamental transformation of society and science. This process has an ethical dimension, as it enables the misuse of data. Commercial mass media such as Facebook, Google, Twitter, Instagram and WhatsApp play a special role in this context, as they can manipulate people’s behaviour in a targeted way. They are controlled by network operators, while users can hardly shape their rules and structures. However, there is sometimes a lack of awareness that these are very sensitive data, the dissemination of which can have far-reaching consequences and open the door to abuse. The tech industries are not always aware of the social and political implications of their actions. The digital humanities have a special responsibility in this process, because they could act as a link between computational sciences, the public and social domain and the humanities, which deal with human behaviour and where the sensitive handling of data has a long tradition. They have the awareness and tools to better control big data. For instance, they could help to find racism

or terrorist language (“toxic words”) in social media.

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IMPRINT

Published by:
Austrian Academy of Sciences
Dr. Ignaz Seipel-Platz 2, 1010 Wien
www.oeaw.ac.at

COVER

Photo: © Niko Havranek

EDITORIAL OFFICE

Mag. Angela Balder

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ISBN 978-3-7001-8631-1



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