welchem mittels einer EU-weiten Umfrage die Meinungen von Bürgerinnen und Bürgern zu diesem Thema erhoben werden. Er wies auf die Gefahr hin, dass Forschungsergebnisse zur Schaffung von Akzeptanz missbraucht werden könnten. Emilio Mordini (Centre for Science, Society and Citizenship Rom) thematisierte anhand des Projekts PACT aktuelle Entwicklungen zu Privacy und Unterschiede zum Datenschutz. Mit dem Projekt DESSI stellte Walter Peissl (ITA Wien) ein System zur Unterstützung von Entscheidungen über Sicherheitsinvestitionen vor. Ein systematischer Vergleich von Alternativen unter Einbeziehung von Experten und Betroffenen solle zu rationaleren Entscheidungen führen. Martin Scheinin (European University Institute Florenz) stellte mit SURVEILLE ein Projekt zur Entwicklung einer Methode dar, mit der die Angemessenheit von Eingriffen in Grundrechte durch Überwachungstechnologien beurteilt werden kann.

4 Fazit

Die diesjährige TA-Konferenz hat versucht, den Begriff Sicherheit als vielschichtiges Phänomen sichtbar zu machen, und zwar durchaus in bewusster Gegenbewegung zu simplifizierenden Sichtweisen, die Sicherheit für gewöhnlich als prädominantes gesellschaftliches Gut darstellen, ohne ihren Sicherheitsbegriff gegen andere gesellschaftliche Werte (Recht auf Privatsphäre, soziale Gerechtigkeit, demokratische Freiheitsrechte etc.) abzuwägen. Dass daran ein lebhaftes Interesse besteht, hat die Vielzahl hochwertiger Beiträge gezeigt, die auf dieser Konferenz geleistet wurden. Technikfolgenabschätzung steht hier in der Verantwortung, konkurrierende Aspekte von Sicherheit, wie etwa soziale Sicherheit oder Versorgungssicherheit zu thematisieren, um der Verknappung des Sicherheitsbegriffs auf rein technische, ökonomische oder militärische Aspekte entgegen zu wirken.

Anmerkung

1) Das Abstract-Booklet zur Konferenz kann bezogen werden unter http://www.oeaw.ac.at/ita/fileadmin/redaktion/Downloads/konferenzen/ta13/abstracts/ABSTRACT_BOOKLET.pdf (download 27.6.13).

The International TA Community Comes Together – Once Again Please!

Report from the first conference within the European project PACITA

Prague, Czech Republic, March 13–15, 2013

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"Technology Assessment and Policy Areas of Great Transitions" was the umbrella title of the European conference. The title was chosen as it is not associated with a single innovation or technology but takes account of the broad interplay of technological developments and political activity, which can be described today as "great transitions" (e.g. in the sectors of health care and medicine, energy supply, climate change, and mobility – besides the penetration of computer technology in all areas of society).[1] The conference in Prague succeeded very well in presenting different technologies in a variety of thematic sessions, and in discussing the reach, approaches and methods of TA in a contrary sense. The potential of TA was explored in terms of its use in relevant societal processes and by presenting experiences and topical work. All in all, this thematically broad and well attended TA conference – organised within the European project "Parliaments and Civil Society in TA" (PACITA) – showed that there is a strong European TA community interested in joint work and scientific exchange. One hundred speakers from over 20 countries presented different views on technologies and the scientific, public and political ways of dealing with them. This report, written by several participants, reflects the content of a range of the sessions.

1 TA – A Question of Institutionalisation

One of the objectives of the European PACITA project – which formed the background of the conference – is to bring together established TA institutions with new actors in the field to provide an understanding of their history and experience

in advising parliaments and to mutually work out lessons learned. Against the background that the embedding of science in society requires reflection on national structures, problems, cultures and traditions, the session "Institutionalisation of TA" presented and discussed experiences and recent developments in TA both across Europe and worldwide, namely in Belgium (Wallonia), Lithuania, the Czech Republic, as well as in Korea, Japan, Australia, and the US. With this approach the session was well linked to, and even went beyond, the research work within the PACITA project, which explores TA developments in seven European countries and initiates national discussions with relevant actors in the field of science-based policy making. The session also served to discuss first comparative results of the PACITA project on recent TA developments in Europe. The discussions with scientists, TA professionals and policy makers vividly showed the challenges of national institutional processes but also the different approaches to TA in different national and institutional settings, in ministry work, in education programmes at universities or at research programmes at non-university research centres.

Nevertheless, the processes of institutionalisation are always embedded in the understanding of democracy and the role of (national) parliaments. Wiebe Bijker argued in his opening keynote speech that TA has initially been about technology, innovation and science, and later about participation by users and citizens, additionally. But, according to one of his main theses, something like a new democratisation takes place nowadays: TA needs to be about reinventing the state and about experimenting with democracy. In his "State of Play", he gave a very informative overview about TA in Europe, the history of TA, and finally about the role of Science and Technology (S&T) in Society. Using the example of nanotechnology, Bijker showed that the development of TA as a policy adviser goes towards "precaution", "regulation" or "funding". On the other side, TA in the understanding of S&T places increasing emphasis on reflexive design and responsible innovation. His conclusion was a „hurray" for TA: If citizens are not afraid of the risks of nanotechnology but fear that they are not well enough informed by the parliament, then the time of TA has come.

2 TA – the Challenge of Governing Decision-making Processes

The session on "TA and Governance" focused on politics and especially the role of TA as an emerging actor in the governance of decision-making processes. An example from the Australian mining industry demonstrated the potential of TA to contribute to a technological decision making embedded in the societal context. The German case of smart grid showed the importance of trust as a requirement for technological developments. Besides trust, also mistrust has a regulating function, and research on trustworthiness could provide important insights. The discussion showed that trust appears to be a controversial subject in the community as well as the question of how to measure the impact of TA projects. At the European level, the need for a European public sphere is an emerging challenge, linking TA experiences from across Europe.

Evidence-based policy-making processes as well are a complex task, as contributions from Japan (Joint Fact Finding after the Fukushima accident in 2011) and from Norway (cross-disciplinary expert groups dealing with salmon farming) showed in another thematic session. Evidently, there is no single scientific "truth" and the concept of always remaining doubts makes "fact"-based decision making a great challenge. The "translation" of scientific knowledge into political knowledge and strategies is another demanding task of TA projects. Furthermore, scientists can do research on values, but they cannot take the politicians responsibility of deciding on values. The session also provided interesting insights into the EU's joint programming process, especially concerning the role of TA, and into how "big data" allows us to sense the world in a new way.

3 TA – How to Integrate People

The session on "TA methods and tools" gave an insight into the broad variety of relevant TA methods, also taking into account more explorative

methods. At the beginning, the chair emphasized that each stage of technological development has its own best-fitting method. Technological forecast, expert or parliamentary hearings, scenario building and future search conferences do all have their legitimization in different TA contexts, but they share the aim to raise knowledge, to shape attitudes or to initialise action. Some projects were presented that used narrative methodology to assess e.g. the functioning of a complex socio-technical system from a user's perspective or the development of a social game for the iPhone to stimulate the debate on human enhancement. In another talk, general assumptions were made about the normative choices TA practitioners actually have and concluded that vision assessment is an appropriate tool to fulfil the normative democratic ideal within TA.

The first part of the session "Participatory Methods" provided a profound theoretical background to participatory TA and presented numerous new approaches to public engagement. The Austrian concept of "project-shaped participation", which moves away from the traditional aim of participatory exercises (e.g. channelling existing protest) toward creating deliberation on emerging technologies despite the lack of public debate, provoked controversies in the auditorium: How can public participation be included in TA processes e.g. in shaping emerging technologies without being some kind of artificial? Thus, it was proposed to leave the single event character and come to "deliberation ecologies". The theme of moving away from traditional trajectory was continued by presenting alternative forms of public engagement.

The session on "Practical Cases of Participation" gave a truly diverse picture of how participatory events can look like – or not, as the example of the Polish initiatives against the building of a nuclear power plant shows. Here, people wish to be involved, but local and central government refuse to step into dialogue with the citizens. This is contrasted by the German citizens' dialogues on future technologies, which were perceived as a good example of participation by the community, especially since a ministry had initiated this dialogue which was open and active enough for reframing the subtopic during the process. The Danish participation in climate change adaptation is a plain example of a well-established local participation process. The CIVISTI project (Citizen Visions on Science, Technology and Innovation) successfully dealt with language and cultural differences of seven European countries. However, the CIVISTI method of participation can also be applied at the local level and will be deliberated on in Vienna soon. One of the main questions during the discussions in this session was how to measure the impact of the outcomes of participatory events.

4 Sustainability within TA

The session "Assessing Sustainable Mobility" discussed the potential of scenario approaches in TA. They can improve systemic knowledge and help structure debates and decision-making processes. The linkage of energy and transport modelling in a Danish case as well as examples from the high-speed rail sector and from electric mobility in Switzerland gave insights into how the systemic perspective in scenario framing can help to overcome persisting techno-centric prediction paradigms and provide useful guidance to policy-making by incorporating broader contexts of technological developments. The case of "MOBI-E" from Portugal, however, showed that this approach has to be carefully adapted to its specific context in order to provide meaningful output.

The session "Sustainable Development and Consumption" examined the topic from a variety of perspectives on sustainable development and consumption. It was argued that "beauty" could give sustainability a new perspective, since this is what attracts people. To achieve beauty, criteria of nature need to be applied, rather than criteria of functionality. It was questioned whether this concept can be scaled up to the world or if it can only be applied in niches. A further critic was related to the applicability to TA, since TA deals with technologies that are getting smaller (e.g. RFID chips) and beauty might not be a relevant reference in this context. Other perspectives on sustainable consumption referred to transitions in the structure of agriculture. It was argued that, in light of the many actors involved in the agriculture market, TA has to be developed into an

integrated inter-systems assessment. The assessment of the environmental impact of genetically modified crops was another topic that has been discussed; it was concluded that a social dimension should be added to properly assess this topic. The field of consumption was addressed through thoughts about a de-growth society.

5 Emerging Technologies and Science

The session "Emerging Technology" provided a broad range, not to say heterogenic scope, of emerging technology fields ranging from security technologies and new manufacturing over to nanomaterials and bioengineering. In a homogenous way, however, all session presentations drew their findings from rich empirical cases. All speakers assessed their technological field of interest with regard to the future societal impact of these (critical) technologies. Overall, the discussions showed that emerging technologies are an important topic of debate in regional and national contexts on the one hand. On the other hand, however, with respect to political regulation, they need to be addressed at the European (or even international) level.

The session "Integrated Assessments of Emerging Science" discussed experiences from several case studies on integrated assessments that have been conducted in the fields of synthetic biology, cloud computing, nanotechnology, and biofuels. These differed significantly, e.g. in their respective involvement of experts (within field vs. additional external experts), the policy context (assessment as part of policy-making or as a reaction). The examples showed that despite the need for holistic approaches, interdisciplinary communication remains a challenge. However, there is no universal approach of integration and integration is necessarily specific and case-sensitive.

6 Discussing TA in Special Formats

Four sessions were organised as parallel events and each of them had an unusual conference format.[2] Two sessions are described in the following: "Politicians and Researchers. Respective Views on Joint Projects" was dedicated to the exchange of TA practitioners and their clients. Different TA projects from four countries were presented by the project leaders and commented by the politician in charge of the project. It was repeatedly emphasised by all those present that close cooperation and communication is needed to complete projects successfully. This helps the practitioners to raise the right questions at the right time. For the client, it is important that all relevant views on a topic are presented in clear language, as it becomes increasingly important to make results communicable to the public. It was also stressed during the debate that politicians do not necessarily expect recommendations, but that researchers provide various options – challenging a well-coordinated balance between the researchers' and the politicians' fields of expertise (i.e. scientific research and value decisions, respectively).

The session "Author Meets Critics" was dedicated to the empirical work and main line of arguments of one book only ("The Cosmopolitisation of Science. Stem Cell Governance in China" by Joy Zhang). In order to put the topic in a wider focus, the book was only used as a starting point from which the discussion emerged to a wider focus by two invited critics (Aditiya Bharadwaj and Ole Döring). The book itself addresses an intensively debated topic of the life sciences: stem cell research, which touches the moral and ethical foundations of human life and has raised societal concern in a number of countries all over the world, resulting in different legal regulations across nations. Using stem cell research in China as an empirical field, the author used the theoretical framework of "cosmopolitisation" (Beck) to show how a "global" research community, which has flexible models of mobility, as well as single researchers with considerable research experiences in more than one cultural context, handle specific (national) issues – and thus how they become global. During the session, Joy Zhang argued that China is no longer the "Wild East" in stem cell research; rather she showed how Chinese natural and social scientists but also ethicists are taking part in today's international science community. Her arguments were shared by the two invited critics who strongly supported the findings of the book in their statements. The critique by Ole Döring (Sinologist and Bioethicist) focused on

the need to come to more concrete recommendations with regard to future regulations in the Chinese context or within international research collaborations. Aditya Bharadwaj (Anthropologist and Medical-Sociologist) addressed his critique starting from post-colonial studies and hence criticised the Western views on science which are still driven from an unequal view from the West to the East (or North and South). The issue of this unequal access to the scientific community is not addressed in Joy's book, whereas international inequalities as well as degradations and valorisations further exist. All in all, the session served not only as an unusual format of a conference session but also broadened the perspective of the European TA discussions to a global context.

7 Final Remarks

The conference attracted more than 250 scholars from all over Europe as well as beyond. Thereby, it became clear how desired an international conference was – and is – by the European TA community and that this conference came to a perfect time. However, spreading the TA community eastwards brings up new challenges – first and foremost finding a common language! During the conference manifold sets of different topics in the field of TA were discussed. Thus, for example, in the session on Ethical Aspects of TA a case from the Israeli health care sector (where health technology assessment serves to support priority-setting in the selection of technologies and measures to be included in the national health insurance law) showed the challenge of applied ethics in TA. Settled in the context of the PACITA project, the conference therefore provided a platform for scientists with their practical experiences from doing TA and for politicians that are the scientists' clients. This allowed for some fruitful insights into the respective expectations and perspectives on TA. For example, Rut Bízková (chair of the Technology Agency of the Czech Republic) expressed the importance of TA assisting in the early detection and assessment of relevant trends in her keynote. Stefan Böschen, on the other hand, called for "opening the black box of scientific expertise-building" to allow for meta-expertise as a link between epistemic und cultural values to be included into the political decision-making process. Consonant with Wiebe E. Bijker, he sees institutionalisation as a prerequisite for the development of democratic culture. However, the format of a conference resulted in a more informative character. Still, the conference's insights may support the further development of the TA toolset and institutional settings of TA during the course of the project. Hereby the conference context served in a broad way to enhance network activities.

Although the conference sessions were the most important part of the scientific exchange, the city of Prague where the different conference venues were situated also contributed its share: There were the modern technical library with many students around, the inspiring presentation of the history of technology and the history of humanity in a science theatre performance, and last but not least the final conference event in an medieval abbey in the historical centre of Prague, where an outlook to the next activities of the international TA community were given: the TA-directors meeting in Finland in 2013 and the second European TA conference of this kind, taking place 2015 in Berlin.

Notes

1) With this claim, the conference followed a tradition of European TA conferences started thirty years before: In 1982, the Ministry of the Interior of the Federal Republic of Germany hosted a conference in Bonn that attracted some sixty experts from eleven countries, among them representatives of the US Office of Technology Assessment (OTA). Later TA congresses were held in Amsterdam (1987), Milano (1990) and Copenhagen (1992).
2) Beside the two described ones, there were: "CSOs in Research", a round of talks and discussions that brought together interested researchers, Civil Society Organisations (CSOs) and experienced scientists of CSO participation in research, and "TA Meets Young Talents", which was a round table session that offered students, (post)graduates, researchers and practitioners from different disciplines the opportunity to discuss how they can learn from Technology Assessment activities and from each other.

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