In social statistics, there are a few standard methods for establishing the so-called poverty threshold, i.e. the income ceiling below which an individual or a family is considered to be poor. The multiplicity of methods is indicative of the political nature of the poverty threshold concept. The use of mean or median value as the main reference for income distribution and, in relation to this, the choice between the 40, 50 or 60 % thresholds, can lead to shifts in the distributions with more or less people estimated as poor. [21] The contested nature of measurement has always been an issue with poverty statistics. What is new, however, is the change in terminology. This was advocated by referring to two strong arguments: first, that a threshold is an abstract construction and raises the question of the substantive difference in living conditions of those living just below or just above a certain level – i.e. why should people be considered poor if they earn one euro below a certain threshold and not if they earn one euro above? Second, poverty and, especially, social exclusion are multi-dimensional concepts and have a strong subjective component – in other words, there are people defined as being under the poverty threshold who do not consider themselves poor or excluded and do not have trouble making ends meet, just as there are people above the poverty threshold who are affected by both of these situations.

The introduction of risk into poverty statistics has done little to take the pressure off the debate on poverty. That was perhaps also not the intention. Instead, more attention today is directed towards the "individual lifestyle" characteristics of poverty as compared to its structural determinants. This is more generally a feature of lifestyle risk as has hopefully been shown by this article. What speaks for it is its emphasis on individual agency – both positively, in terms of empowerment, and negatively, in terms of liability. Yet as epidemiological data and social statistics show, the prevalence of specific addictive behaviours or, more generally, lifestyle risks, among specific groups of people suggests that agency is not the only factor at play. Structural factors relating to class, race, education, residence, background living conditions and income are equally important determining variables. The question for policy therefore becomes what is to be prioritised in any particular situation. This is a more complicated matter than might appear at first sight.

Technological breakthroughs promoting human enhancement are likely to render this area of risk regulation even more complex in the future, in addition to reintroducing the question of ethics – which had initially been sidetracked – into the lifestyle risk discourse. From this perspective, the intense recent debates on smoking bans are likely to appear harmless but might also be revisited – in theoretical as well as legal terms.

21 Currently, Eurostat sets the at-risk-of-poverty threshold as 60 % of the national median income per adult equivalent

Nanotechnology

This section is meant to give readers an insight into the emerging field of nanotechnologies and risk regulation. It informs and updates readers on the latest European and international developments in nanotechnologies and risk regulation across different sectors (e.g., chemicals, food, cosmetics, pharmaceuticals) and policy areas (e.g., environmental protection, occupational health and consumer product, food and drug safety). The section analyzes how existing regulatory systems deal with new kinds of risks and reviews recent regulatory developments with a focus on how best to combine scientific freedom and technological progress with a responsible development and commercialization of nanotechnologies.

Regulating Nanotechnologies by Dialogue

André Gazsó, Christiane Hauser** and Mario Kaiser****

I. Introduction

To find a proper balance between the increasing R&D activities in the rather inhomeogenous field of nanotechnologies and the necessary research on their possible adverse effects, which could trigger unfavourable or even hostile public debate, the European Commission developed several politi-

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cal documents, such as the European Strategy for Nanotechnology[1] and the European Nanotechnology Action Plan[2]. In both documents a "safe, integrated and responsible" strategy was proposed and the European Commission postulates that "risk assessment related to human health, the environment, consumer and workers should be responsibly integrated at all stages of the life cycle of the technology". Therefore, the European Action Plan for Nanotechnology and many of the subsequent national action plans (e.g. in Germany, Switzerland, and recently in Austria) suggest coordinated activities mainly in two areas, i.e. (1) increasing support for research on environmental, health and safety issues of nanotechnologies and (2) scientifically based risk communication to encourage an informed public debate. In its Action Plan the European Commission states that the public's perception of nanotechnology and its risks should be properly addressed and emphasises that ethical principles must be respected. In some cases this must be enforced through regulation where appropriate (p. 18.).

The most important basic ethical principles to be attended to are (1) the principle of respect for dignity; (2) the principle of justice and of beneficence; (3) the principle of freedom of research; and (4) the principle of proportionality. In paragraph 3.5.2. (p. 19 f.) the European Commission highlights the need to devote due attention to the societal aspects of nanotechnology. Therefore, the Commission

- calls upon Member States to pursue an open and proactive approach to governance in nanotechnology R&D to ensure public awareness and confidence;
- encourages a dialogue with EU citizens/consumers to promote informed judgements on nanotechnology R&D based on impartial information and the exchange of ideas;
- reaffirms its commitment to ethical principles in order to ensure that R&D in nanotechnology is carried out in a responsible and transparent manner.

II. Public dialogue as a political goal

The two main goals formulated in the European Action Plan are mirrored in the subsequent national action plans, such as the "Nano-Initiative – Action Plan 2010" by the German Federal Ministry of Education and Research (BMBF) of 2007[3], the Swiss "Action Plan – Synthetic Nanomaterials" as laid out in the report of the Federal Council from April 9, 2008[4], and the "Austrian Nanotechnology Action Plan"[5], which was adopted by the Austrian Government in March 2010.

Regarding a transparent and balanced public information strategy the German Action Plan states in chapter 4 ("Informing the public", p. 26 f.) that the Government wants to discuss both potential benefits and risks with the public and reaffirms not only to inform the public in an appropriate manner about both chances and risks of nanotechnologies but even to actively involve the public in the dialogue process. The Ministry emphasizes the importance that the public is given the opportunity "to inform themselves about risks and benefits and to discuss any reservations with experts". According to the recent edition of the German Plan of Action, the German federal government wants to conduct „a comprehensive dialogue with the public about the opportunities and effects of nanotechnology".[6]

In the Swiss Action Plan – Synthetic Nanomaterials appropriate measures regarding public information and debate are discussed in chapter 3.1 ("Communication and promotion of public dialogue on the opportunities and risks of nanotechnologies", p. 9). The public and other important actors, such as politics and economy, must have "clear access to information" regarding the actual regulatory circumstances. In addition, "up-to-date scientific findings on the risks of synthetic Nanomaterials must be available". The responsibility to provide valid and reliable information lies with the federal authorities. Furthermore, "industry, the authorities and the general public must be included in the debate about the opportunities and risks of nanotechnology". This dialogue process must not be separated from the ongoing research activities but has to be an integral part

1 European Commission, Towards a European strategy for nanotechnology (COM(2004)338), 2004.

2 European Commission, Nanosciences and nanotechnologies: An action plan for Europe, 2005-2009 (COM(2005)243), 2005.

3 Federal Ministry of Education and Research (BMBF), Nano-Initiative – Action Plan 2010, Bonn, 2007.

4 Federal Office of Public Health FOPH, State Secretariat for Economic Affairs SECO, Federal Office for the Environment FOEN, Action Plan – Synthetic Nanomaterials, 2008.

5 Federal Ministry of Agriculture, Forestry, Environment and Water Management et al., Austrian Nanotechnology Action Plan, 2010.

6 BMBF, *Aktionsplan Nanotechnologie 2015* (Bonn, Berlin 2010).

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in the development of nanotechnology. Special importance is given to the role of scientific Technology Assessment, mainly to "identify the opinions, wishes and fears of the population", which, however, would be a more traditional approach of scientific understanding of science. Additionally, the Swiss Action Plan promotes also more participatory approaches to public engagement such as PubliForum, Publifocus and PubliTalk as carried out by the Swiss Centre for Technology Assessment.

The most recent document, the "Austrian Nanotechnology Action Plan" has been adopted by the Austrian Government in March 2010. This action plan has been initiated and coordinated by the Federal Ministry of Agriculture, Forestry, Environment and Water Management, but comprised all principally concerned Federal Ministries and other authorities such as Federal Ministry for Transport, Innovation and Technology (technology development), Federal Ministry of Health (consumer protection), Federal Ministry of Labour, Social Affairs and Consumer Protection, Federal Ministry of Science and Research (science funding), as well as professional associations (Austrian Chamber of Commerce, Austrian Chamber of Labour) and non-governmental organisations.

III. Politics of talk

Unsurprisingly nanotechnology has been accompanied by dialogue at a very early stage and has massively been influenced in its progress. We assume that dialogue, in the context of the management and regulation of new technologies has become a political reality, both on the transnational and national levels. Therefore it seems quite obvious to make reference to an area of research that has, for the past few years, been attempting to provide a sociological and political analysis of the phenomenon of a politics of talk (Irwin 2006) in the domains of scientific and technological policy.[7] Irwin states in his article that there is „*pressing need to move away from the orthodox science and technology studies (STS) defence of public participation and citizen-science engagement [...] towards an analytically sceptical (but not dismissive) perspective on the 'new' mode of scientific governance*" (Irwin 2006: 300).

The social implementation of new technologies has, in the past few decades, proven to be a promising testing ground for the 'dialogising' of scientific and technological policies in the name of democratisation. With regard to participatory forms of dialogue alone, more than 100 different types have been identified (Rowe and Frewer 2005), ranging from planning cells to large-scale conferences to focus groups.[8] Furthermore, social scientists and scholars of the humanities have been evaluating these concrete events and judging their political influence on the basis of normative criteria that generally follow the ideal of coercion-free discourse. Just a few years ago, Alan Irwin proposed regaining some analytical distance to this considerable use of dialogue and to adopt a „sceptical (but not dismissive) perspective on the ‚new' mode of scientific governance" (Irwin 2006: 300).

IV. Politics beyond the state

Indeed, we view our research as an answer to Irwin's appeal to take a close empirical and conceptual look at the current politics of talk, without still having to defend the principle of dialogic governance (Irwin 2006: 304). Our analyses, however, are based on a concept of politics that is decisively different from the one that Irwin makes more implicit than explicit use of. Although Irwin pleads for us to consider the new language of "two-way dialogue, transparency and 'taking citizens seriously'" as being symptomatic for cultural changes in the way we deal with new technology, his analyses limit themselves to state institutions and reports. He thus equates politics with the state – and such an equation has been increasingly problematised in recent times by the humanities, the social sciences, and others.

The case of nanotechnology makes it very clear that state protagonists only partially – and often only very belatedly – disputed the political activities surrounding its regulation and its being made governable. Reinsurers such as Swiss Re, think tanks such as DEMOS (Wilsdon and Willis 2004),[9] the International Risk Governance Council (Renn and Roco

7 Alan Irwin, "The Politics of Talk: Coming to Terms with the 'New' Scientific Governance", 36(2) *Social Studies of Science* (2006), pp. 299–320.

8 Gene Rowe and Lynn J. Frewer, "A Typology of Public Engagement Mechanisms", 30(2) *Science, Technology, & Human Values* (2005), pp. 251–290.

9 James Wilsdon and Rebecca Willis, *See-through science: why public engagement needs to move upstream* (London: Demos, 2004).

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2006),[10] or the Risiko-Dialog foundation were at all times just as active as state institutions. The turn from government to governance even increased this trend, insofar as 'top down', 'hierarchic', rock solid regulations eventually executed by state bodies are more and more regarded as hurdles for 'bottom up', heterarchic, and flexible ways of decision making.

Moreover, the early interventions of the non-governmental organisation the ETC Group show how initial non-governmental attempts at politicising nanotechnology provoked state protagonists into political reactions. The possible grey goo scenario (ETC Group 2003)[11] led among other things to the establishment of a working group in England whose report (RS & RAE 2004)[12] had a lasting effect on how nanotechnology policies were structured in Europe (Rip and Amerom 2010).[13] In this sense, nanotechnology empirically leads to the diagnosis of a *politics beyond politics* or, in the words of Rose and Miller (1992),[14] a *political power beyond the state*.

V. Nano-dialogue in German-speaking countries

This paper is based on the examination of different forms of *governing by dialogue* in three German-speaking countries (Germany, Austria, and Switzerland). The spectrum ranges from stakeholder dialogues to participatory dialogues and even to informational sessions that are now often described as dialogues. The ensemble of governmental technologies that, in one form or another, constitute dialogues, embody dialogues, or require dialogues, can justifiably be characterised as *governing by dialogue*. In this context in Germany, Switzerland, and Austria, we can primarily identify three different dialogic architectures or programmes (Types I to III) that can be summarised under the keywords 'conference', 'participation', and 'information'.

Type I – stakeholder dialogues: We can see nanotechnology *being made governable through differentiation* and delegation at conference-style dialogues that distribute the themes of the plenum across different workshops, and follow this up by delegating tasks to scientific and political protagonists. Stakeholder dialogues as we understand them are mostly organised by some governmental institution and focus on specific topics. Participants are either experts or persons with some kind of mandate. Often they are directly connected to decision-preparing or decision-making processes. Examples for this type of dialogue are the German „NanoDialog", the Swiss „NanoConvention" and the Austrian „Nano-Plattform".

Type II – participatory dialogues: One encounters nanotechnology being *made governable through exploration* particularly in participatory dialogues in which citizens are given the opportunity to speak with as few constraints as possible in elaborate exploratory forums. Similar to information dialogues lay people are in the centre of participatory dialogues, as well, that try to integrate other forms of knowledge (apart from scientific "expert" knowledge) in decision-preparing or –making processes about science and technology. Often, they are connected to political processes and initiated by governmental bodies although the integration of their results into these political processes might not be clear from the beginning. The „PubliFocus" process in Switzerland (2005) is the most prominent example for this type of dialogue, whereas in Germany and Austria several focus groups were carried out – typically as part and within the framework of research projects (NanoCare, STOA Nano Safety).

Type III – information dialogues: Nanotechnology is *made governable through demonstration* predominantly at dialogues that fall back on the architecture of informational sessions, where a strict separation between stage and audience exists, and where protagonists therefore demonstrate their accomplishments and intentions to a largely anonymous audience. In contrast to type I- and type II-dialogues, information dialogues mainly aim at a

10 Ortwin Renn and Mike Roco, "White Paper on Nanotechnology – Risk Governance", International Risk Governance Council, Geneva, available on the Internet at <http://www.irgc.org/IMG/pdf/IRGC_white_paper_2_PDF_final_version-2.pdf> (last accessed on 16 January 2012).

11 ETC Group, "The Big Down: From Genomes to Atoms", January 2003, available on the Internet at <http://www.etcgroup.org/upload/publication/171/01/thebigdown.pdf> (last accessed on 16 January 2012).

12 The Royal Society & Royal Academy of Engineering, Nanoscience and nanotechnlogies: opportunities and uncertainties, Report of 29 July 2004, available on the Internet at <http://www.nanotec.org.uk/finalReport.htm> (last accessed on 16 January 2012).

13 Arie Rip and Marloes van Amerom, "Emerging De Facto Agendas Surrounding Nanotechnology: Two Cases Full of Contingencies, Lockouts, and Lock-Ins" in Mario Kaiser, Monika Kurath, Sabine Maasen and Christoph Rehmann-Sutter (eds.), *Governing future technologies: Nanotechnology and the Rise of an Assessment Regime* (Dordrecht: Springer, 2010).

14 Nikolas Rose and Peter Miller (1992), "Political Power beyond the State: Problematics of Government", 43(2) *The British Journal of Sociology* (1992), pp. 173–205.

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one-way information transfer. Examples for this kind of dialogue are the citizen dialogues carried out by the Technology Centre of the Association of German Engineers (VDI/TZ), the Swiss „NanoPubli" in the NanoEurope framework and the public discussion forum in the framework of the „Risiko:dialog" held by the Austrian Environment Agency (UBA) and the Austrian Broadcasting Company (ORF).

VI. The architecture of nano-dialogue

With this selection, we are not orienting ourselves toward normative or philosophical criteria for what a good dialogue is or should be, e.g., toward criteria of reciprocity, symmetry, or reflexivity (Habermas 1990).[15] There are two reasons for this: First, each of the dialogic architectures under consideration channels, structures, and forms ‚free' speech through rigid programmes of action in a way that allows for no comparison with the notion of an equitable conversation. Secondly, politics in the present day is made by defining what a ‚good' dialogue is. With respect to this state of affairs, a constructivistic perspective determined the selection for our analysis: Dialogue is simply that which is labelled as such (generally by the organisers themselves). Furthermore, the selection was oriented toward recursively formed ideal types of dialogue, following Max Weber. Here, we explicitly acknowledge the fact that dialogues can take on hybrid forms in the real world. The three types of dialogues, however, are considerably different from one another, so that „research faces the task of determining in each individual case the extent to which the ideal-construct approximates to or diverges from reality" (Weber 1949: 90).

In all three cases, we have emphasised an architectonic characteristic on the one hand, and a temporal characteristic on the other. While the former concerns the spatial distribution among active speaking subjects and passive listening subjects (plenums and workshops, round-table discussions, stages and auditoriums), the latter is aimed at the (permitted) order of speech among participants. Both characteristics are crucial for an understanding of concrete dialogues as governmental technologies and accordingly as specific action programmes. The question about how different dialogue-centred events made nanotechnology governable has been answered on the basis of three dimensions: the *factual*, the *social*, and the *political*.

With regard to the *factual* dimension, we have analysed to what extent dialogues make things governable. These analyses show that the three different types of dialogues do indeed make different types of objects governable. With Type I (conferences), nanotechnology is made governable in such a way that state authorities as well as scientific and economic institutions assume responsibility for certain aspects that can be regulated or researched. With Type II (participation), we are dealing with the making governable of certain kinds of public acceptability toward nanotechnology. Toward this end, the dialogues transform the invited laypersons into critical citizens or consumers who are supposed to formulate political and social desiderata. Type III (information), on the other hand, attempts to control the public image of nanotechnology.

The analysis of the *social* dimension is indebted to the interest in the technicity of dialogue processes and the involved programmes of action of dialogues. Within the framework of our research, we developed the thesis that the architecture of a dialogue could lead to predictable results. In their plenary sessions, Type I dialogues make distinctions within problems that are initially barely governable, and then delegate the resulting subproblems in parallel workshops that subsequently take place – this way of making the problems governable is clearly linked to the architecture of the conference-style dialogue. Similarly predictable are the results of Type II dialogues, whose architecture comprises the goal of having the invited laypersons see eye to eye – on the cognitive level – with policy-makers and scientists. If this step is accomplished, then an experimental exploration of the laypersons' feelings, attitudes, and values takes place, which is precisely not the goal of Type III dialogues.

The analysis of the *political* dimension is interested in the question of how individual dialogues have structured and differentiated the terrain of nanotechnology in such a way that different protagonists – including state authorities – have managed to take up these specific structural and differential achievements and integrate them into their actions. For instance, while the Type I dialogues that we have analysed reduced nanotechnology to nanoparticles and their implications, and thus turned this challenge

15 Jürgen Habermas, *Moral consciousness and communicative action* (Cambridge, MA: MIT Press, 1992).

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into one that can – in principle – be regulated by authorities, Type III events are primarily concerned with the presentation and demonstration of nanotechnology as a key technology for the future. With these three dimensions in mind, we will now provide a detailed analysis of dialogue events that are to be classified as Type I. Due to space constraints, our examinations of Types II and III will be more limited, however.

VII. Conclusions

Our analysis of dialogic architectures via these three dimensions empirically confirms that there are significantly different types of dialogue that each pursue distinct goals and also lead one to expect different results on account of their distinct structures and pre-determined action programmes. Yet all three share one thing in common: namely, that they enable new technologies or technological developments to be made governable – in the case at hand, developments in nanotechnology. The thesis of governing by dialogue that we formulated at the outset of this essay can thus be empirically verified.

While Type I events differentiate the vague construct of 'nanotechnology' and thereby break it down and make it possible to delegate concrete responsibilities and tasks to different social protagonists, the participatory Type II dialogues aim at an equitable integration of private citizens into this definitional process. Topics such as the public's confidence in science and research, as well as their attitudes toward concrete consumer products, are treated in an exploratory manner here. Type III dialogues, on the other hand, aim at a (very positive) depiction of nanotechnology as a key technology with great potential, and attempt to increase the public's acceptance of new developments.

One interesting finding from our detailed analysis of Type I dialogues as well as our more cursory examination of Type II and III dialogues is that in all cases aspects of future political and public debates should be identified so as subsequently to anticipate these claims, as it were. This kind preemptive politics attempts to avoid, in the case of nanotechnology, the failures that past technologies have undergone on the communicative level (if nothing else) – e.g., nuclear power or genetic technology. It would be worth further pursuing this thesis in the future through more in-depth analyses of all three dialogue types.

Regulatory Impact Assessment

This section regularly examines Regulatory Impact Assessment (IA) at three levels: the EU, the Member States and internationally. Contributions aim to cover aspects such as the interface between IA and risk analysis, looking at methodologies as well as legal and political science-related issues. Contributions are meant to report and critically assess recent developments in the field, develop strategic thinking, and make constructive recommendations for improving performance in IA processes.

Measuring Regulatory Quality? No Thanks (But Why Not?)

*Claudio M. Radaelli**

The Organization for Economic Cooperation and Development (OECD) has yet again rekindled the debate on measuring the performance of regulatory instruments and regulatory oversight institutions. This is a commendable initiative arising out of the OECD steering group on measuring and communicating regulatory reform. The debate on regulatory indicators and measures of regulatory reform is a bit of a classic, but there hasn't been coordinated action across nations yet. Both the OECD and the European Commission have sought to persuade and convince their Member States to agree that (at least some) indicators are good measures a government can use to measure its own progress over time. And that there are some indicators that perhaps travel well cross-country, and hence might be adopted for cross-country comparison. But although some governments have been pioneering indicators of regulatory quality, the group of laggards is still large. When asked about measuring regulatory quality, there are still many governments that de facto respond 'no thanks'.

In this context, this summer our Centre for European Governance at the University of Exeter was asked to produce a background paper for the OECD steering group – another paper on Regulatory Evaluation was produced by Professor Cary Coglianese. The paper was written by Oliver Fritsch and myself.[1]

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1 Claudio M. Radaelli and Oliver Fritsch, "Measuring Regulatory Performance", *Working Paper for the OECD Regulatory Policy Committee* (2011).

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