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Governance of Science and Technology: The Case of Denmark

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In the general discussion on science governance, Denmark is very often held up as a model of participatory governance. It shares this role model with The Netherlands – and more recently, possibly also with the UK. As revealed in Lassen's contribution, the 'discretionary' strategies of a previous epoch were challenged already in the 1980s by a more 'deliberative', perhaps even 'antagonistic' model of S/T governance (Lassen, 2004: 3). The institutional outcomes of this early challenge resulted in the establishment of two distinct deliberative organs: *Danish Board of Technology (Teknologirådet)* and *Ethical Council (Det Ethiske Råd)*.¹

What I will seek to do in this general overview of the Danish model is to situate these outstanding organs in the wider Danish context: Do they represent Danish S/T governance – or are they rather 'special cases'? My response will not be overly conclusive, but cautious and tentative. In the course of the last two or three years, Denmark has been through a 'consciousness' revolution due to a change of government: the previous social-democratically led coalition stepped down in late 2001 and a liberal-conservative coalition has been ruling since. One decisive measure of the new government was to challenge the previous 'expertise' - and strengthen lay participation on all levels. The expertise, it was claimed, had built up a massive monopoly on how to view social and environmental issues. The new government wanted to appropriate these social-technical spaces and make them 'political'. In the centre of discussion were the issues of immigration, environment, criminality – and not the least values as to what Danishness is all about. The critique directed at expertise was limited to areas occupied by the soft social sciences; natural science and technology were on the whole left outside with the notable exception of environmental science. The latter was denounced as a red-green coagulation of left-over hippies from the 1970s.

In such a way, it would seem that the new political regime continued along the path that has made Denmark so famous: deliberation and lay antagonism strengthen the political process and need be re-iterated! This is probably also how the new government liked to perceive of its own efforts: as a rejuvenation of traditional Danish values and a homage to the legendary parson N F S Grundtvig (1783 – 1872). He is the famous creator of 'People's High Schools': education for the commons going beyond the technical/disciplinary in an effort to shape a full personality. Grundtvig is the Danish equivalent to Humboldt in Germany and to Dewey in USA. Both Humboldt and Dewey harboured reservations about science abstracted from life and human purposes, but they did not altogether denounce it: they sought to embed it in a scheme of higher human values. Grundtvig, the theologian and the author of many hymns, was deeply suspicious of science: he saw in it a threatening erosion of human and social life. The all-inclusive concept of knowledge cultivated at the classic Danish 'people's high school' embraces the expressive faculties - singing, dancing, and praying – rather than the bookish 'learnedness'. There is much good to be said about the classic Grundtvigian virtues: it shapes social personalities and helps lay the foundation of a healthy scepticism of elites, especially if generated by abstract science.

¹ More detailed information on these two Danish vanguard institutions can be found on: www.tekno.dk and www.etiskraad.dk

The new antagonistic measures of Danish science policy, initiated by the Government in its struggle to dismantle the coalitions of the old, could thus be viewed in a much longer Danish tradition of popular mobilization. It is important, at least in my view, to de-couple the often made link between popular mobilization (social movements) and progressive left-wing ideas. Popular mobilization can also occur within conservative circles, especially if they can mobilize against 'the left'. 'The left' became a target of attack in Denmark: behind the alleged neutrality of expertise, the government and its popular support saw a disguised monopoly of leftist power. The hunting season was now open: leftist loyalties were ridiculed and hanged out publicly. Old leftist parties became remarkably silenced and non-offensive. An ideological war, now from the right, was mounted. The effects of this war, however, were less impressive than expected – and the Prime Minister has now called it off the agenda. In Denmark, Social Democracy has won the battle – it just depends on from what side you are viewing it: from the Right, Middle or the Left! It is no longer occupied by the party that carries its name – it has become a much more generalized platform.

The popular mobilization of recent times against social-technical expertise does not exclude the possibility of there also being new 'discretionary' forms of government coming into being in Denmark. Elite circulation is an old idea in the social sciences: the exit of one form of elite paves the way for the emergence of a new (or old). Market governance has gained in weight and in power at the same time: it is now proclaimed as a preferable mode of governance, especially when contra posed to that of old bureaucratic corporatist forms.

The two vanguard institutions are still around, but the (deliberative) advices of the *Ethical Council* are now often received with annoyance: its precautionary attitude in questions pertaining to, for instance, genetic technologies is looked upon as hostile to science – and to Danish industry! In the case of the Technology Board, its state-financed budget was cut as a result of the political turmoil, and now it is more dependent on market success: to gain concrete S/T offers from industry and government (local and national). The orientation towards market governance is a general and decisive character of the new Danish social and political landscape affecting almost any of previously state-supported activities, not the least university research and education.

On S/T finance in Denmark: from government to governance!

Discussion pertaining to S/T governance can profit from the wider financial picture. R&D expenditure in Denmark in relation to GNP were around 2, 3 % in 2001 (Forskningsstatistik 2001). This can be contrasted with Sweden and Finland respectively: both these countries were well above the magical 3 % promised by the EU-countries in the Lisbon declaration of 2001. It is to be noted, however, that also Denmark in this respect is far above the average figure for the rest of Europe which in 2001-2002 was lying on 1,7 – 1,8%. Even if Denmark has increased its public R&D share by ca 1 billion Danish Kroner (1 Euro = 7, 40 D kr) over the last decade, it still remains below the

Lisbon promises : public R&D spending should reach 1% of GNP by 2010, while the remaining share (up to 3 %) is to come from industry.

The lack of S/T resources is an embarrassing Danish issue in many discussions, especially when viewed in the larger Nordic perspective with Finland as a `star`. A recent OECD evaluation of Danish education and research also recommended that Denmark invests more in S&T (in more Ph.D students especially). The increased investments are to be generated by strategic research – and a better coupling between university science and industry. A larger public share is made difficult as it then encroaches on other welfare costs. Hence, a new S&T mantra on strategic (situated!) research. The government contemplates the possibility to establish a new research foundation (*Fremtidsfonden*) with money coming from North Sea Oil or else from privatizing some public assets – like Kastrup Airport or the Danish Post.

But the revenues from such a research bank are not to flow freely. Bio-nano-information-communication technologies are to be the recipients of such strategic investments. University researchers have questioned such `closures` as they suspect that they are launched by industry, and not by science communities themselves (market governance rather than discretionary governance). Other critics have also pointed out that these `strategic areas` are those where all other countries also invest. Hence, there is a risk for `the tragedy of the commons`: small countries will eventually be wiped out by larger ones or multinational companies. Instead, it is suggested, that Denmark should invest in such research where it can really make a difference in the long run. University researchers, also in Denmark, show considerable skepticism against the pervasive `inscripture` of strategic- innovative research (for an elaboration of `inscripture`, see Horst 2004). Instead they have repeatedly called for a strengthening of `basic research` support to the university for the simple reason that a one-sided support of strategic research may lead to non-welcome consequences: some research fields are flooded with money that the corresponding personal situation cannot swallow (badly spent money), while other research fields with trained personal are starved of resources for generations to come. The Economic Council (*Det Økonomiske Råd*, another key deliberative Danish organ) has repeatedly warned for the consequences of such concentration of research investments.

So it is fair to say that the present Danish S/T debate is divided between, on the one hand, a strong push for market governance under the name of strategic research, while, on the other hand, there is an equally strong reaction, and a call for more `discretionary` governance from large circles. It is curious to note, however, that even if the present Danish government is an ardent promoter of market governance on the domestic arena, it is strongly supporting the partly Scandinavian-led initiative of establishing a common European Research Council (ERC) on the European level, so limiting the purely strategic research efforts of previous Framework Programs.

Back to participatory governance: the role of democratic experiments

I started my remarks pointing to the Danish model of participatory governance, of consensus conferences and its close akin, the 'developmental spaces' (featured by Bruun Jensen 2004). These citizen-efforts have helped 'brand' the Danish S&T Model in the international community. Are all these efforts now withering away – or loosing their momentum?

It need be repeated that the two Danish vanguard institutions, *The Technology Board* and *Ethical Council*, are guaranteed by state legislation. They cannot be abolished without causing considerable public stir. In my view, both institutions have established a solid position in contemporary Denmark. Both institutions are needed, but for different reasons.

Although somewhat dismantled in the last political turmoil, the *Board of Technology*, fulfills a technical-practical role in being a 'switchboard' used both by national/local government and industry in 'testing' controversial technological innovations. The role of the Board is to be an administrator of controversies, actual or possible ones. Bruun-Jensen describes nicely how the Board administrated a test on electronic patient record (2004). In such a way, the Board now appears as a very practical administrator of modern risks and insecurity. The staging of 'democratic experiments' (Bruun-Jensen 2004) can be viewed as a preview of possible dissent in the real world, which helps participants become sensitive to the complexity of technological decision-making. The Board no longer has much of a political role: rather it extends technology into the realm of human decision-making.

The Ethical Council plays yet a different role: in the Weberian language its members are 'honoratores', and not technicians. *The Council* was established in 1987 after many years parliamentary debates initiated by the advent of the first IVF-baby in Denmark (1983). It is a direct response to the advances in bio-technology and its social implementation. The Council has 17 members, half of which is bio-medical expertise and the other half 'honorary' members – a social and academic elite (Brekke 2004). The Council picks its own topics to be pursued and usually accompanied by a broad array of other activities: public debates and hearings, films, media-events. It is a model of 'deliberative' governance in the sense that the sole role of the Council is to offer the Danish society an enlightened spectrum of ethical choices and their practical end-results. Contrary to the Board of Technology, the Council is not oriented towards reaching consensus; it is more 'process-oriented' than 'product-oriented'(Brekke 2004). But as I also noted in the introductory remarks, voices have been raised as to whether the Council now has outplayed its social role; in the words of a former high-ranking member, the Council risks becoming a platform for individualized public performance rather than serving the collective (Lars Henrik Schmidt in Brekke 2004: 295).

So these two vanguard institutions do still play important roles in the Danish society. But we have to realize the co-existence of many forms of S/T governance in modern Denmark. The role of both the Technology Board and the Council is that of selecting

topics to be discussed, experimented and deliberated upon. None of these deliberative organs can set politics or steer finances – so they depend on there being other routine forms of governance for everyday affairs. Although market governance, as a social-political rhetoric, has become dominant, such governance competes with and helps to shape more discretionary forms in modern Denmark.

So, what we learn from the Danish case is that S/T governance is not one-dimensional: many forms of governance coexist and interact – smoothly or less smoothly. It could be that at a more advanced level, S/T governance demands a multiplicity of forms. The more advanced the technology, the more advanced are the forms of governance called for.

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