

# **Can Science Centres Become Centres of Assessment as Well as Learning? Reflections on the 'Future Body' Exhibition in Copenhagen**

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## Introduction

Denmark is famed for encouraging multiple forms of public engagement with science and technology going far beyond a traditional public understanding/education model of science communication. In my presentation I want to briefly take up what happens when this Danish desire to stimulate public dialogue, discussion, debate and deliberation around contemporary science and technology spreads to the science centre context and a current exhibition at the Experimentarium Science Centre in Hellerup, just north of Copenhagen city.

## Danish Public Science Culture

Let me begin with a few words about the specificity of public science culture in Denmark today. The unique features of public science in Denmark can be connected to the lessons learnt in the 1970s with the widespread public rejection of plans to develop a domestic nuclear power capability. The experience here was that public information and education campaigns only served to polarize opinion for and against nuclear power further making any broad critical acceptance of nuclear power in Denmark an impossibility. A need was subsequently felt to develop an approach to the social regulation of contemporary science and technology that placed public understanding of science initiatives within a broader framework of organized social and political debate.

While vested interests in nuclear power production were small in Denmark, the centrality of the so-called agro-industrial complex to the national economy meant that it was felt that the development of public attitudes and public responses to new biotechnologies was not something that could be left to chance. Public understanding of science and public education initiatives were therefore to be integrated into an overarching concern with developing new forms of public assessment and public engagement with science and technology. Public understanding was to be subordinate to the achievement of public agreement over science and technology issues. Public agreement is not thought to naturally flow from the provision of perfect information from brilliant and self-confident scientists and engineers but results only through a comparison of opinions, knowledges and judgements which are identified as being mutually enriching for being distinct.

I would emphasize that it is not my intention here to romanticize public science culture in Denmark which could be interpreted as just as much about containing as advancing broad debate about science and technology in society. Furthermore, I would not want to support the belief that always calling on publics to voice an opinion is necessarily a good thing. Part of the reason for this being that when are voiced they are often left unrecorded and allowed to go to waste. In addition as an outsider within Danish culture and society I can witness a chauvanistic aspect to public science culture in Denmark prioritizing national agreement over European and/or transatlantic forms of dialogue and debate. A recent book by the anthropologist Paul Rabinow is entitled *French DNA* and I see a struggle to articulate 'Danish DNA' also taking place.

Let me just mention two key institutions of science and technology assessment in Denmark today, one of which has collaborated in the exhibition at the Experimentarium I want to talk about.

1) Most famously you have the Danish Board of Technology founded in 1985 which has gained widespread international recognition for its pioneering development and co-ordination of consensus conferences with lay panels interrogating expert witnesses and drawing up public reports.

2) Secondly, you have the Danish Council of Ethics established in 1988 and mandated to inform and advise the Danish Parliament, state authorities and the general public about 'ethical problems raised by developments within the National Health Service and the field of biomedicine'. One of the slogans of the council is to work to achieve 'Ethics on Time' in step with medical advances indicating both an urgency and a pragmatism in the Council's work programme.

## Future Body

But now (at last) let us turn to what happens when this Danish taste for public debate and deliberation over contemporary science and technology invades the science centre.

The vehicle for experimenting with the science centre as a centre of assessment as well as learning has been the current Future Body exhibition at the Experimentarium which opened in April 2000. This millennial initiative is the most costly temporary exhibition the Experimentarium has ever staged and it has involved the science centre entering into new relations of active partnership with a range of organizations including several of the exhibition's major sponsors. The aim of Future Body is to draw visitors into a close personal engagement with a range of current developments within the information and biosciences which promise to radically transform lived bodily experience within the next 20 years. Visitors are to be offered a clear idea and a strong physical sensation of what living in a Future Body might actually be like so as to provoke them into both registering their opinions and reflecting further over the desirability of such new ways of life.

Ultimately however, I would argue that Future Body has become a divided exhibition polarized around two very different joint ventures between the science centre and outside organizations. In the end, play and serious debate have been seen as too difficult to combine and integrate and therefore they have been largely kept apart. On the one hand you have the web-based Virtual Debate Book feature of the exhibition; the easily identifiable serious side of the exhibition co-ordinated jointly by the Experimentarium, the Danish Council of Ethics and the daily newspaper Jyllands Posten. For the Book seventeen experts with contrasting perspectives on the future of the human body have been recruited including scientists working on cloning, robotics and nanotechnology as well as a reader in bioethics and a professor of women's studies. Each expert has supplied an article which appears on Experimentarium's website as well as an abridged version which is being published in Jyllands Posten in a chronicle series running over a nine month period. The day after each article appears in Jyllands Posten the expert makes him/herself available for two hours of on-line discussion in the Experimentarium's virtual chat-room. Significantly, the expert articles are valued and archived on Experimentarium's website while the exchanges between the expert and the lay public from the chat-room are not saved and discarded.

The other notable side of the Future Body exhibition is the so-called 'personal exhibition' feature produced in close collaboration with Computer Associates in Denmark and the Nordic Systems Developers TietoEnator. This has become the easily identifiable playful side of the exhibition. A side providing (when it works) an intelligent, personalized exhibition experience based on adapted cutting-edge e-business platform technology.

As you enter the Future Body exhibition you are given the option to log-in to the personal exhibition. This you do with a smart card which you then carry around throughout your visit. On this card you register your name, sex, date of birth and preferred language (Danish, Swedish or English) and whether or not you want data from your visit saved for a later virtual revisit to the exhibition. Once logged-in to the personal exhibition different interactive exhibits are able to recognize and respond to you personally. The exhibits in question include the 'Genetic Passport Booth', the Net Doctor Stand and the 'Don't I Know You' face-recognition terminals. Data from your personal exhibition is saved and stored on a personal homepage on Experimentarium's website which you can then access with an allocated password. There have been many technical problems with these personal homepages and the priority has been to save imagery from the exhibition as amusing souvenirs of pleasurable experiences at the exhibition.

Highly significantly, the personal exhibition was at first intended to centre around a series of dilemma stands which would seek to elicit personal responses to some of the problems and uncertainties accompanying developments in the information and biosciences. These responses were originally seen as the most valuable information to be saved for personal homepages. However, as collaboration with the Experimentarium's new information technology partners developed this original dilemma stand plan was abandoned. Only one central dilemma stand remains with three terminals where you can 'Choose Your Future' and decide 'How Far' you want to go with specific

technologies like cloning. In contrast with imagery from the 'Don't I Know You' exhibit, visitors responses at the dilemma stand have been considered too uninteresting and impractical to incorporate into personal homepages.

With the failure of the larger dilemma stand plan the polarization of the Future Body exhibition between play and debate was a fact. So regardless of whether or not we want to support it or not, the Danish model of science communication based on public engagement and debate has not successfully migrated to the science centre through the Future Body exhibition. Instead, I think we can witness a new look active consumer model of science communication accompanying the rapid uptake of new media in the exhibition. Too easily and under the pressure exerted by the mindsets of the suppliers of new media technology to the science centre, Future Body points towards the possible delivery of more 'dynamically personalized' forms of science entertainment in the science centre.

A consumer model of science communication following on the heels of a too ready adoption of e-business technology in the science centre also rejects traditional public understanding and public education models of science communication as too elitist and paternalistic. Instead it advances the view that the success or failure of contemporary science and technology will hinge upon whether or not it can be made interesting enough and pleasurable enough to be chosen - to be consumed. The problem with dilemma stands in science centres is seen not in terms of the issues raised being unimportant but being simply too uninteresting and unengaging to draw and hold an audience. If you want to get the public concerned about contemporary science and technology you must first provide them with experiences worth consuming. Therefore, if Danish public science culture need not necessarily be seen as more truly democratic than other patterns of public science culture the growth of the active consumer model of science communication through the Future Body exhibition and similar initiatives elsewhere makes broader discussion of what constitutes citizenship today in societies completely pervaded with science and technology more essential than ever.