

## **Socratic Dialogue as a New Means of Participatory Technology Assessment?**

### **The case of Xenotransplantation**

#### 1. Introduction

Xenotransplantation (in the following XTP), or animal-to-human transplantation involves the transplantation of animal organs, tissues or cells into humans.<sup>1</sup>

Xenotransplantation, like many developments in modern medicine, science and technology, bears enormous chances, but is also associated with new risks (Bonß 1995) and major ethical problems. Ethical questions of new technologies challenge our existing decision making mechanism. The questions in this context are not only: Who is going to decide? And: On which basis are we going to decide? But also: In which way can we debate these complex issues? Who can legitimately discuss and resolve ethical problems of science and technology? Is it sufficient to only include professionals (including bioethics experts) or do we need a broader ethical debate, which also involves other actors in the field including the concerned public and /or civil society (c.f. Chadwick 1999). Furthermore, if a broad public discourse on the ethical problems of modern science and technology is both necessary and desirable, how can these questions be debated and resolved, and what decision-making procedures can be used to resolve ethical questions?

This paper gives a description of an international research project, which introduces and evaluates a well-established method for resolving ethical issues - the Neo Socratic Dialogue (in the following NSD) – into debates on technological risks in modern societies.<sup>2</sup> The NSD traces back to the Socratic Dialogue, which has been developed by Leonard Nelson in the 1920s (Nelson 1922, 1965). The issue under discussion in this project are ethical questions of xenotransplantation.

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<sup>1</sup> XTP is based on several medical and scientific developments, in particular: (a) progress in transgenics and immunology, which have made possible the production of genetically modified animal organs which are more compatible with the human immune system, and (b) improvements in regulating the human immune response

<sup>2</sup> The project entitled “Increasing Public Involvement in Debates on Ethical Questions of Xenotransplantation” is financed by the European Commission.

The following sections will give a short overview on these ethical problems and on NSD as a new means of PTA. Furthermore it will present an outline of the above mentioned research project.

## 2. Ethical Questions of Xenotransplantation

XTP, like many developments in modern science and technology, is associated with new risks and raises a number of major ethical problems. Whilst XTP could help solve the shortage of organs from human donors and save the lives of many patients waiting for transplantation<sup>3</sup>, there is a serious risk that viruses which cause animal diseases might cross the species barrier and spread through human populations. Ethical questions of XTP still to be resolved include:

- Is it in principle acceptable for reasons of religious believe, cultural values and animal welfare to use animals to provide organs and tissues for transplantation into human beings?
- Which animals could be used (primates or non-primates)?
- Is it acceptable to save the life of an individual whilst putting at risk health care professionals, relatives and the general population?
- Is it acceptable to restrict the individual freedom of xenograft recipients to protect public health?
- Is it acceptable to neglect alternative approaches to solving the donor organ shortage and to invest limited research resources into a technology, the success of which is highly insecure?

EU Member States vary considerably in the public awareness and discussion of XTP. While some countries have already set up expert commissions to investigate the problems of XTP and have started to issue related guidelines - e.g. for the UK, for the Netherlands and for Germany - many other countries have yet to address XTP.

Apart from the lack of a well developed public debate on the ethical issues raised by XTP, a basic and still unresolved problem in many modern societies is: who can legitimately discuss and resolve ethical problems of science and technology? Is it sufficient to only include professional bio-ethicists or do we need a broader ethical debate, which also involves other actors in the field including the concerned public.

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<sup>3</sup> By the end of 1997 the waiting lists for transplantation in selected European countries totaled to: kidneys 30.392, heart 1.853, liver 1.755, lung 705, heart-lung 319, kidney and pancreas 267, pancreas 197. Numbers include: Austria, Belgium, France, Germany, Greece, Luxembourg, Ireland, North-Italy, Portugal, Slovenia, Spain and UK (ETCO: 2000)

Furthermore, if a broad public discourse on the ethical problems of modern science and technology is both necessary and desirable, how can these questions be debated and resolved, and what decision-making procedures can legitimately be used to resolve ethical questions?

### 3. The Neo-Socratic Dialogue (NSD)

A NSD is an inquiry into ideas, originally meant to find consensus on some topic through a joint deliberation and weighing-up of arguments. The dialogue aims at visioning, explaining values and clarifying fundamental concepts. It implies a systematic investigation of our assumptions, reasons and viewpoints, and a cooperative testing of their validity. In the dialogue participants attempt to formulate legitimate principles and develop a shared and inspiring perspective (Nelson 1922, 1965, Heckmann 1993).

A second aim of the NSD is to learn to have a dialogue instead of a discussion. This requires adequate command of a number of dialogical roles, skills and attitudes, especially suspending judgements and keeping a balance between taking position and resigning. Both aims are intimately connected to the development of strategy, organisational learning and knowledge management.

The NSD has been successfully applied so far in medical ethics (Birnbacher 1999), university teaching (Heckmann 1993, Birnbacher 1982, Kleinknecht 1989, Gronke/Stary 1998, Littig 1999), organisational learning (Kessels: 1996), business ethics (Kessels 1997/2001), as well as primary education (Weierstraß 1967, Murriss 2000). The proposed research project will introduce this method into PTA.

A NSD is focussed on a single fundamental ethical question. A NSD is applied to a concrete experience of one of the participants that is accessible to all other participants. Systematic reflection upon this experience is accompanied by a search for shared judgments and underlying reasons for these. In the case of xenotransplantation these question can be the following:

- To which extent does individual benefit justify collective risk?
- Do animals have rights?
- Should animals' rights restrict the right of humans to live? To which extent?
- Does the purpose for which animals are used make a difference (diet, transplantation)?

- Are humans allowed to blur the boundaries between the species?
- Are measures, which could become necessary to protect public health in accordance with human rights?

What is basically Socratic in the NSD is the method of rigorous inquiry into the thoughts, concepts and values we hold as true. The NSD is a joint investigation into the assumptions we make when we formulate our thoughts.

The NSD follows the following procedure:

- Before the discourse commences a well formulated, general question is devised.
- The first step is to collect concrete examples experienced by participants in which the given question plays a key role.
- The group selects one example, which will usually be the basis of the analysis and argumentation throughout the dialogue.
- Crucial statements made by the participants are written down on a flip chart or board, so that all can have an overview and be clear about the sequence of the discourse.

The participants of a NSD have to abide by the following rules:

- Each participant's contribution is based upon what (s)he has experienced, not upon what (s)he has read or heard.
- The thinking and questioning is honest. This means that only genuine doubts about what has been said should be expressed.
- It is the responsibility of all participants to express their thoughts as clearly and concisely as possible, so that everyone is able to build on the ideas contributed by others earlier in the dialogue.
- Participants should not concentrate exclusively on their own thoughts, they should make every effort to understand those of the other participants and if necessary seek clarification.
- Anyone who has lost sight of the question or the thread of the discussion should seek the help of others to clarify where the group stands.
- Abstract statements should be grounded in concrete experience in order to illuminate such statements.
- Inquiry into relevant questions continues as long as participants either hold conflicting views or have not yet reached clarity.

The NSD will be organised and moderated by an authorised facilitator. This facilitator has the following tasks: to look that participants mutually understand each other, refer to their own experience, proceed step by step, remain focused on the issue under discussion, participate equally in the dialogue, explain their contributions thoroughly, substantiate their judgements, strive for consensus, make progress in the dialogue. Moreover the facilitator documents the reasoning of the dialogue. Finally, he/she will contribute to the evaluation by writing a record of the NSD and will be interviewed for the evaluation.<sup>4</sup>

A group of experts/stakeholders will participate in the NSD. These experts/stakeholders are: researchers (e.g. active in stem cell research, psychologists, sociologists, economists), physicians and other health care workers, representatives of patients and their relatives as well as representatives of self help groups, government, firms, religious, environmental and animals' rights groups, statutory and private health insurance.

#### 4. Developing a new PTA method to debate ethical questions of modern science and technology

In the last 30 years a number of approaches of PTA have been explored (Hennen 1999, Marris/Joly 1999), such as citizens' jury processes (Crosby 1996), citizens' juries (Stewart et al. 1994), citizen panels (Hörning 1999) and consensus conferences (Joss/ Durant 1995). In comparison with these broadly similar approaches and the existing Technology Assessment (in the following TA) studies on new biotechnologies the proposed project is innovative in the following respect:

*Contributing to evaluation of PTA.* PTA needs some kind of tested and evaluated procedure to discuss ethical implications of XTP. Although a wealth of PTA have been carried out so far on various technologies in the USA and Europe, at present evaluation of PTA does hardly exist (as an exception c.f. Klüver et al. 2000). In particular there is a lack of evaluation data on the impact of PTA. The proposed project will create such data, in particular by systematically interviewing participants

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<sup>4</sup> Most facilitators of the NSD completed academic training before they started their training as facilitators. This training is based upon a (minimum) two years' experience as participant in NSD. The practical and theoretical facilitator training lasts additional two to three years and is supervised by an experienced facilitator (mentor). Qualification emphasised in the training as facilitator include: pedagogic competences, democratic attitudes, discourse ethics, psychological sense, awareness about group dynamics and result orientation.

before and after the NSD about their expectation and experiences. Furthermore the proposed project will document and analyse the “resonance” of the NSD in the public debate. Thus, evaluation will assess the value of the NSD for PTA and its possible use in the debates surrounding other fields of technology.

*Introducing a well tested communication technique into PTA.* An analysis of 16 PTA carried out in EU-Member States shows, that the role and qualifications of the facilitator as well as the methodology of discussion between experts/stakeholders and laypersons is often only vaguely defined (Klüver et al. 2000). The proposed project introduces a communication methodology (NSD) into PTA, which is well-established and tested in several areas. Furthermore, the formalized training and certification of facilitators of the NSD assures that they have the necessary qualifications to moderate such a process. The proposed project will investigate the possibilities of this method to deal with ethical questions of modern technology to underpin policy making.

*Emphasizing social learning.* Klüver et al. (2000) emphasize the significance and potential of social learning processes of PTA. The proposed project stands in line with these efforts. The NSD is a communicative method, which fosters social learning. The proposed project will create a discursive space where experts/stakeholders and laypersons will be able to reconcile conflicting claims and deliberate the ethical implications of therapeutic cloning.

*Stimulating improvement of communicative patterns and abilities.* The proposed NSD on XTP differs from other methods of PTA in its goals. Like other approaches, NSD opens a discursive space that enables choice. The NSD, however, is innovative in its attempt to engender an open ethical debate and to make ethical actors more aware of and sensitive to ethical questions of XTP as well as to improve their ability to cope with and to communicate these questions to other actors.

*Furthering public participation in the debate on new biotechnologies.* Most national and international TA studies on new biotechnologies focussed so far on classical TA, which strived for the improvement of decision-making by the production and provision of knowledge. TA research in the last 15 years criticized this TA-approach as ineffective (e.g. Albaek 1995), because it would simplify policy-making processes and overvalue the potential impact of TA on these processes. Policy-making does not follow rational choice but is a chaotic process (Cohen et al. 1972, March/ Olsen 1989) in which scientific knowledge is only one among others resources. As a consequence PTA advocates for broadening TA and to include the perspectives of

experts/stakeholders as well as laypersons. This would improve the TA process on a cognitive, normative and pragmatic level (Klüver et al. 2000). In contrast to that, very few existing national and international TA studies on new biotechnologies have involved the public in any significant way. The proposed project, which can be regarded as a PTA project with focus on ethical questions will increase public involvement and broaden public debate by actively involving experts/stakeholders and laypersons in a series of dialogue.

*Involving ethical actors into the debate on xenotransplantation.* Ethical questions of modern science and technology are not only within the competence and responsibilities of (bioethics) experts, but are the responsibility of people directly involved in relevant practical fields. We will call these groups “ethical actors”, i.e. professionals from research, medicine, nursing, social work, public administration, insurance companies and interest groups as well as patients and their relatives, who each will have to deal with the ethical questions raised by XTP in their everyday life (Chadwick 1999). The proposed project will broaden the debate on ethical questions of xenotransplantation by actively involving these ethical actors. Unlike other approaches to PTA the NSD will not involve randomly selected laypersons, but deliberately selected ethical actors, which will be encouraged to reflect on the ethical implications of XTP for their everyday life and work.

## 5. Outline of the Research Project

The following table gives an overview of the different steps of the research work:

Table 1 Working blocks of the proposed project

Working block Nr.	Title
1	Baseline Evaluation (Analysis of the Debate on XTP in Each Participating Country)
2	Analysis and Monitoring of International Debate
3	NSD
4	Evaluation of NSD
5	Final Report and Policy Options
6	Dissemination of Results of NSD and Project Results

The heart of project is the evaluation of the Neo Socratic Dialogue. The evaluation raises questions about its input, process, output and impact. Evaluation will be based

on participating observation (evaluators will observe the Neo Socratic Dialogue), the records of the Neo Socratic Dialogue as well as ex-ante and ex-post interviews with facilitators, participants and several key actors. The first wave of follow up interviews will take place in the same week as the Neo Socratic Dialogue. The second wave of follow up interviews will be carried out 2 to 3 months after the Neo Socratic Dialogue (see following list).

List of Evaluation Questions 1<sup>st</sup> wave:

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Input:	<ul style="list-style-type: none"> <li>• Was it possible to enrol all relevant actors in the Neo Socratic Dialogue? If not, why not?</li> </ul>
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Process:	<ul style="list-style-type: none"> <li>• Which issues were debated? Which lines of arguments were used during the Neo Socratic Dialogue? By whom? With what results? Which coalitions as well as conflicts of interests did exist/ emerge? How did the group deal with them?</li> <li>• Which problems arose?</li> <li>• Was the process managed efficiently?</li> </ul>
Output:	<ul style="list-style-type: none"> <li>• What results did the Neo Socratic Dialogue have?</li> <li>• Was consensus reached? If not, why not? Was it possible to mark dissent?</li> <li>• Was it possible to formulate policy options?</li> <li>• To what extent do participants think that the Neo Socratic Dialogue achieved its goals? Why?</li> <li>• What experiences did participants have in the Neo Socratic Dialogue? Where their expectations/motives/goals fulfilled? Why? Why not?</li> </ul>
Impact:	<ul style="list-style-type: none"> <li>• What consequences do participants think that the Neo Socratic Dialogue will have for their professional and private everyday life?</li> <li>• What consequences do participants think the Neo Socratic Dialogue will have on the national and international XTP debate?</li> </ul>

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List of Evaluation Questions: 2<sup>nd</sup> wave of follow up interviews

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Input:	<ul style="list-style-type: none"> <li>• Was it possible to disseminate the results of the Neo Socratic Dialogue into a wider discussion on XTP (a) within the organisations the participants represented (b) to the general public?</li> </ul>
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Process:	<ul style="list-style-type: none"> <li>• In which ways were the results of the Neo Socratic Dialogue brought in the XTP debate (e.g. newspaper articles and other mass media, media of particular interest groups, governmental bodies, parliament)?</li> </ul>

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Impact:	<ul style="list-style-type: none"> <li>• What consequences do participants think that the Neo Socratic Dialogue will have for their professional and private everyday life?</li>   <li>• To which extent do participants in the Neo Socratic Dialogue and other key-persons attribute these changes to the Neo Socratic Dialogue?</li> </ul>
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The next table (2) shows the methodologies used in each working block:

Table 2: Methodologies used in individual Working blocks

Working block	Methods
1	<ul style="list-style-type: none"> <li>- Content analysis of newspapers, magazines, policy papers</li> <li>- Analysis of literature</li> <li>- Secondary analysis of data</li> <li>- Expert interviews</li> </ul>
2	<ul style="list-style-type: none"> <li>- Analysis of literature and “grey literature” (e.g. conference papers, internet-web pages)</li> </ul>
3	<ul style="list-style-type: none"> <li>- NSD</li> </ul>
4	<ul style="list-style-type: none"> <li>- Analysis of records and documentation of the dialogue</li> <li>- Baseline interviews with participants (motives, expectations)</li> <li>- Follow-up interview with participants and facilitators of the NSD (2 waves)</li> <li>- Interviews with other key persons</li> <li>- Comparison with baseline-evaluation</li> <li>- Content analysis of newspapers, magazines, policy papers</li> </ul>
5	<ul style="list-style-type: none"> <li>- Analysis of results of previous workpackages</li> </ul>
6	<ul style="list-style-type: none"> <li>- Report and dissemination of results (publication in scientific journals, presentation at conferences, press conferences etc.)</li> </ul>

The project lasts for two years, starting in January 2002. It is carried out by several scientific institutes in Austria, Germany and Spain.

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#### **List of Abbreviation**

IVF	In Vitro Fertilization
NGO	Non Governmental Organization
NSD	Neo Socratic Dialogue
PTA	Participatory Technology Assessment
TA	Technology Assessment