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CONTENTS

PROLOGUE On The Politics of Life Itself	01
Locating myself	03
Abstract	05
1. INTRODUCTION	
1.1. Great Expectations	06
1.1.1. Stem Cell Science	07
1.1.2. Somatic Cell Nuclear Transfer (Therapeutic Cloning)	08
1.2. Problematising Stem Cell Science	10
1.2.1. Research Interests	11
1.2.2. The Explanatory Power of the Chosen Case Studies	11
1.2.3. Methodological Remarks	12
1.2.4. Discourse and Biopolitics	13
2. THEORIES AND CONCEPTS	
2.1. Discourse and Archaeology	15
2.1.2. Archaeology and Genealogy	17
2.1.3. Pastoral Power	18
2.1.4. Biopolitics	19
2.2. Applying Discourse Theories to Policy Analysis	22
2.2.1. Story Line Concept	22
2.2.2. Hypothesis	23
3. EMPIRICAL PART	
3.1. The History of Biotechnology Regulations	24
3.1.1. The Price of Progress	25
3.1.3. Breaking the Divides	28
3.1.3. Comparison	31
3.1.4. The Utilization of human cells in the welfare state	32
3.1.5. Fremskridets Pris and Att Spränga Gränser	34
3.2. The Status of the Embryo	37
3.2.1. Human Dignity and Dignity of Humans	37

3.2.2. The Gradual Development and Increasing Worth of Human Beings	38
3.2.3. Ensoulment Theory	39
3.2.3. Denmark: Negotiating the Beginning of Life	40
3.2.4. Sweden: Basing Ethics on Facts	41
3.3. The Argument of Lutheran Ethics	43
3.3.1. Playing God	43
3.3.2. God's created co-creator	44
3. 4. Excursus: Eugenics and the Archaeology of Social Welfare	46
3.4.1. The Silent Narrative of Scandinavian Eugenic Policies	46
3.4.2. Scandinavian Welfare Eugenics vs. National-Socialist Race Hygiene	47
3.4.3. Comparing Eugenics to Stem Cell Research	48
3.4.4. The Meta- Narrative Welfare is Made by Science	49
3.5. The Argument of Naturality	50
3.5.1. Scandinavian Perceptions on Naturality	51
3.5.2. Demand for new forms of technology ethics	52
3.5.3. Evolution	53
3.5.4. Backwardness	54
3.5.5. Disgust	55
3.6. Modes of Information and Participation	56
3.6.1. Institutionalized Information	57
3.6.2. Public Media	59
3.6.3. Dagens Nyheter	59
3.6.4. From moral objections to legitimate interests	60
3.6.5. Public Perception	61
3.6.6. Science is really needed- that's all I know	62
4. CONCLUSION	64
EPILOGUE On Fish and Sheep	66
Bibliography	68
List of Interviews	75
Abstract (Deutsch)	76

PROLOG

On The Politics of Life Itself

A multitude of new and path- breaking discoveries in the biosciences and life sciences raise questions we never asked before in that way. Questions concerning our comprehension of the meaning of life, questions on creation, what mankind can do and is allowed to do. All these considerations may change our vision of life and of humankind itself. Scientific innovations, especially those in the area of biotechnology and genetics, affecting not only our everyday lives but also require new ways of examining them. Since these questions concern the inner core of life it is important to assure that all parts of society can join this discussion. Therefore it is necessary to find ways for deliberative valuation and facilitate democratic and equal access to new technologies.

All the novelties in the area of biotechnology bear new and undreamt possibilities but also uncertainties and risks and thus lead to far- reaching consequences in society (Beck, 1986; 1993). It is obvious that also the social sciences have to deal with these new problems since mankind finds itself in a rapidly changing environment. Those developments have been taken into account by the appearance of Science and Technology Studies (STS). This discipline scrutinises the arising problems within the theories of science but also its effects for the area of public policy (Jasanoff, 1995; 1997). Research on technology policies became therefore ever more important during the past decades.

Biopolitics in a Foucauldian sense is one of the most common terms in the discussion. Policies are exercised for the welfare of mankind. Life conditions should be improved, suffer and harm minimized and life expectancy maximized. For the improvement of life conditions power is exercised by the conduct of population. This is what is covered by regulation in a Foucauldian sense. Human embryonic stem cell research and cloning are part of biotechnological methods, which are able to redefine our self-consciousness. Our comprehension of life is shaken to its foundations and the boundaries of life and non-life are redrawn. Since human embryonic stem cell research and cloning issues concern this politisation of life we should not only take a glance at the outcomes of the regulations but also observe the underlying power relations.

From the political science perspective it is of inherent interest, which actors are involved in the decision making process concerning this policy area and how national governments and authorities deal with those questions. Since these decisions enclose a power potential. Carrying out the policy analysis of the regulation and implementation of the contentious issues in this policy field involves focusing on what special modes of conduct shape this government of life. After all, the way we deal with these new technologies is forming the future society to some extent and may also have profound impact on how we conceive ourselves. This politics of life itself, as Nikolas Rose (2007) put it, lead to societies maybe most crucial question of these days: Who we are and how we want to life in the future?

Locating myself

Due to the special circumstances and in line with the common practice of reflexivity in social sciences I begin with „locating myself“ (Riessman, 1993) in relation to my subject. The first part of my investigation was carried out during an Erasmus exchange in 2004/2005 in Stockholm. My observations were completed in 2006 during a stay in Copenhagen where I conducted further interviews and library research. In January 2007 I gave a presentation of my thesis, after having relocated from Vienna to Hamburg in the meantime. At the end my supervisor, the late Prof. Gottweis told me that he is looking forward to read my finished work. On this day I thought it would take me only a few weeks to do so. The following day I was diagnosed a serious illness and my whole life changed completely.

On one of the last occasions I met Gottweis I only told him that I was ill for a while but I am better now and will finish my thesis as soon as possible. From the distance I did not even know about his condition and felt shocked when I heard of his death. I talked to a friend expressing my confusion and sorrow and said that I do not know if I ever will finish my work. He answered that it is always hard to cope with someone's death, who had such a formative impact and that this might be a good time to take this as an occasion to get „back to the roots“. This made me read Gottweis' texts again and thinking about where my work started and what it was all about.

Indeed, it suddenly reminded me why I felt so inspired by his work to come to his office one day with a concept of a future thesis concerning the comparison of public participation in Sweden and Denmark. Gottweis said that this question would be of great interest and a wide field for researching when I am retired. For now I should try to focus on only one aspect of the issue. He suggested looking at a special field, as for instance stem cell research, which was „a hot potato“ in Sweden at the time. By this he offered me the great possibility to combine all the things I feel most interested in: policy analysis and language combined with an issue of STS. Stem cell research was a great suggestion for me personally, since I was involved to life sciences during my former education in biochemistry and biotechnology.

However, it turned out that the participation task, which I wanted to discuss originally was not as important as is generally assumed when thinking about the Scandinavian model. But, after all it brought me deeper to the reasons why I wanted to study political science; to figure out what power is and how it can be described and understood.

Given the circumstances it took me years to finish this work and what I have learned is, what Gottweis always tried to show in his lectures: that power is a fluent concept, decentralized and steadily in movement. In the beginning of my research during my stay in Sweden, the topic of stem cell research was vividly discussed and hyped by the actors in this field. A few years later neither the scientific nor the economic expectations of these valuable cells seem to be fulfilled and the attention turned to other fields. The examples of Sweden and Denmark illustrate that power can take different ways to come to the same conclusion. It is this difference we have to focus on in political science and have to be aware of as citizens too if we want to take part in forming our „reality“.

I deeply regret that it will never be possible for Gottweis to read and comment on this finished thesis and seize the opportunity to thank him for providing me with exactly what I was searching for when I decided to study political science; even if I didn't know then what that would mean in detail. I appreciated the unique atmosphere he created for his students, who seemed to feel encouraged to make their own thoughts, and also failures. He aroused my passion for policy analysis and influenced my understanding of it as a craft.

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Abstract

The main focus of this master's thesis is on human embryonic stem cell research (heSCR) and somatic cell nuclear transfer (SCNT) in Sweden and Denmark. Whereas Sweden has a quite liberal point of view concerning the regulation in this policy field, the Danish approach is rather restricted. The comparative perspective may help to understand the arguments and values that determine the discussion. The core interest is on the way policy-making is influenced by the various arguments and what distinguishes the Swedish discussion from the Danish debate, as well as how societal values influence the decision-making process and define the discourse. In other words: *What narratives are responsible for the differences in the regulation of human embryonic stem cell research in Sweden and Denmark?*

The analysis investigates how involved institutions and actors determine the political discussion by their arguments. Therefore it is based on a discourse analytical approach, since my hypothesis is that political decisions are always made in reaction to a certain discourse. The ground of my argumentation is Foucault's Archaeology of Knowledge (<1972> 2010) of discursive practices and his concept of biopolitics.

1. INTRODUCTION

1.1. Great Expectations

Many diseases, such as Parkinson's disease and juvenile-onset diabetes mellitus, result from the death or dysfunction of just one or a few cell types. The replacement of those cells could offer lifelong treatment. (Thomson et al., 1998: 1147)

In November 1998 the announcement that James Thomson and colleagues (1998) at the University of Wisconsin developed a method to culture pluripotent human embryonic stem cell lines from embryos surplus to IVF (in vitro fertilisation) caused a sensation within the scientific community, as well as in the public. From this moment on embryonic stem cells became the protagonist in different stories about a promising future that will possibly hold treatment for presently incurable diseases. It was a story on promises, but also about the ethical dilemmas posed by this technology. Series of promises were also made about the specific capabilities and possibilities of these particular stem cells that give rise to hopes that they would be beneficial in regenerative medicine. *"These cell lines should be useful in human developmental biology, drug discovery, and transplantation medicine."* (Thomson et al., 1998: 1145). Prospects for a future therapeutic application were linked to hopes for increasing financial remedies in the Research & Development sector, as well as a reduction of health care expenditures. The amazing capabilities, which define them as pluripotent make embryonic stem cells such a precious raw material for medicine and valued item for the rapidly growing international stem cell market (Gottweis, 2009).

After this breakthrough in human embryonic stem cell research a number of states and governments were discussing the potential risk of this new technology. Though the expectations were great, the technology itself was not uncontested. The question was raised if it should be legally permitted and how it should be regulated and controlled. National political debates are discussing stem cell research. But what is covered by this term?

1.1.1. Stem Cell Science

The project of stem cell research in general can be dated back to the mid 1980s when the first embryonic stem cells were isolated from the inner cell masses of mouse blastocysts. A stem cell is an immature and undifferentiated body cell. Differentiation means that a stem cell can principally undergo unlimited division and thereby specialisation in order to form different other cells specialised for their particular function in the body. Stem cells can develop into all cells and tissue types occurring in a completely developed organism. They can either undergo this process of differentiation in order to obtain a specific function in the body or remain as an undifferentiated stem cell in different body parts, where they build a reservoir. Therefore stem cells exist as embryonic stem cells in the very early organism, but also in adult tissue, where they repair and regenerate damaged tissue on demand.

The promises of these cells are their potential use in regenerative medicine and the development of new therapies and treatment for presently untreatable diseases. When stem cell techniques will be able to control the process of differentiation into diverse specialised cell types they would be able to replace damaged tissue. Due to these amazing capabilities stem cells might be a potential resource for regenerative medicine. However, stem cells are not only distinguished between embryonic and adult stem cells. They are also categorised along their potential for differentiation that is diminished with the increasing age of the cell. The fertilised ovum, called zygote possesses the highest potential for differentiation and is totally capable of forming invariably any cell and tissue found in a fully developed individual. This capacity is therefore called totipotency.¹ While adult stem cells are only multipotent. That means their capacity to develop into specialised cell types is rather limited. Multipotent stem cells are available in different body parts where they develop on demand to repair organs and tissue.²

¹ The zygote can even build the extra-embryonic structures and the placenta. Totipotent stem cells can also give rise to a full human being as long as they exist in an appropriate environment, like the uterus.

² Blood stem cells are an example of multipotent cells, since they can form all kind of blood cells. However, adult stem cells can differ in their capacity for development. This is referred to as plasticity. Some are of high potential for differentiation. So- called mesenchymale stem cells discovered in the bone marrow (Verfaillie, 2002) seem to have a high potential and may even be pluripotent. Adult stem cells are used in transplantation of the bone marrow.

However, multipotent stem cells are hard to obtain and their development is difficult to steer under laboratory conditions. Whereas such efforts in adult stem cell research have been made the pluripotent stem cells still seem to be the most promising.

The holy grail among stem cells are embryonic stem cells. They are pluripotent and can differentiate into all forms of cells. Nevertheless they are defined as cells that cannot give rise to a new individual, because they cannot- in contradiction to the zygote- build the extra-embryonic structures. Although the distinction of totipotent and pluripotent stem cells is widely acknowledged in the current use of the scientific community, it is not uncontested. (Gottweis, 2002; Robertson, 1999; for a detailed and enlightening illustration of the definition of pluripotency and totipotency understood as “terminological calibration” see the dissertation work of Morten Sager, 2006: 242-254.)

The derivation of human embryonic stem cells requires embryos. Therefore this field of research cause different problems of rather technical nature, but also ethical procurement. One of these ethical problems is to find appropriate sources of stem cells.³ However, the most common form of deriving stem cells is using frozen embryos that are surplus to IVF and are not needed any longer for fertilisation purposes. Once stem cells are isolated they can be cultivated and stored in form of non-ageing and self-replicating stem cell lines. Stem cell lines make stem cells in quantity available and do not lose their capability for differentiation. Pluripotent human stem cell lines are derived from the inner cell mass of a few days old newly fertilized ovum (Thomson et al., 1998). This so-called blastocyst is a formation of about 50- 150 cells.

1.1.2. Somatic Cell Nuclear Transfer (Therapeutic Cloning)

Another source for obtaining the valued embryonic stem cells is a procedure called somatic cell nuclear transfer (SCNT). SCNT does not require but create embryos. It may be used in regenerative medicine where it is sometimes referred to as “therapeutic cloning”, but it can also be seen as the first step towards reproductive cloning.⁴ Its application is thus debated very controversial.

³ A team around John Gearhart of John Hopkins University in Baltimore had successfully isolated human embryonic germ cell lines from aborted foetuses (Shamblott et al., 1998; see also Gearhart 1998).

⁴ The same method produced Dolly the sheep, the first cloned animal (Wilmut, 2002).

SCNT requires a recipient and a donor cell. The recipient cell is an unfertilized ovum, a so-called oocyte. The required donor cell is gained from adult tissue. The cell nucleus of the somatic cell is then inserted to the egg cell, whose nucleus has been removed before. The somatic cell nucleus, which carries the DNA of the donor, is transferred into the enucleated egg cell. The egg cell then, is stimulated to mitoses by electric impulses and will begin to divide and develop into a blastocyst. The advantage of this procedure is that the resulting embryonic stem cells carry exactly the same DNA as the donor for whom these stem cells were created. Immune system rejection, which is a frequent problem in transplantation medicine, can be avoided that way.

In any case these embryos must be discarded. Some attempts have been made to avoid these ethical problems by producing induced pluripotent stem (iPS) cells (Takakashi & Yamanaka, 2006). These induced pluripotent stem cells are artificially reprogrammed adult cells that have been restored into the embryonic stage by using genetic programming (Yu et al., 2007).⁵

The debate on stem cell research poses the question, if this technology is reconcilable with the valid definition of human dignity. It turns out that human dignity does not mean the same for all people. For some it implies to provide the best possible health care for already born individuals and they combine this attitude with the hope that stem cell research can fulfil this expectation. For others it seems more important to owe and save the unborn life and they equate this kind of research with a human intervention into divine creation and human fate.

⁵ These cells show similar characteristics as embryonic stem cells. If they are equivalent to embryonic stem cells in all their characteristics is still not clear. A further advantage of these iPS cells is the possibility to create cells that matches to the patient's cells and thus avoiding immunological rejection. The new technique of producing iPS cells caused a reduction in research on other techniques such as SCNT, which requires and destroy embryos. Nevertheless also the promising iPS has their problems, since there is a risk for tumour development.

1.2. Problematising Stem Cell Science

How does an issue become a problem? If one wants to uncover the history of heSCR archaeologically, (cf. Theories and Concepts) one first has to uncover all layers of its development. Thereby it can be shown how heSCR became an issue of public relevance at all. From this view it seems wrong to begin this story of heSCR with the derivation of the first human stem cell lines in the year 1998. Since the discourse on heSCR does not show up out of nothing. Rather it is embedded to those structures of meaning and interpretation that already evolved in the area of life sciences before. Most notably those discourses were based on mere suppositions and promises that modern medicine could eventually deliver new applications and treatment, as long as research is unrestrained.

Over long periods in the history of discourses on life sciences the possibilities to intrude into the human body were labelled as science fiction and created irrational fears and anxieties of the body's dehumanization. Despite of numerous reports in the media it lacked serious indication that this research has more to offer than untenable and empty promises, which could be realised- in the best case- in a very distant future. In fact, the news of the Thomson group (1998) and John Gearhart (1998) was tantamount to a revolution in the life sciences. Former research in this field, for instance on mouse blastocysts could not come to such public attention - a frequent dilemma of basic research. Nevertheless, the issue of stem cell research and stem cell therapies was linked to crude ideas about manipulation of humans. Frankenstein myths and cyborg fantasies inspired the public imagination enormously. The response to these visions was information and positivist science knowledge.

Before the news of the cultivation of self-renewing and storable stem cell lines the research on stem cells was going on internationally observed only by the scientific community and was only little-noticed by public and politics. This created the situation we find at the beginning of this case study. In the United States began negotiations if this kind of research on humans has to be financed exclusively by private money or even by public. For investors Sweden became an interesting place after it turned out that a remarkable amount of the desired stem cell lines were derived in Swedish laboratories. For the steadily growing stem cell market Sweden turned therefore into an interesting partner (Helsingin Sanomat, 2002). Maybe this is the most important reason for the later development in Sweden.

It need not be explained that the Swedish government was interested in searching for and supporting this partnerships. In order to take these opportunities Sweden applied one of the most liberal regulations in this realm of research. This also resulted from the US interest in Swedish lines, which have been derived before. This initial situation we do not find in Denmark, therefore the Danish discussion was not under the same pressure of time. It is not hard to realize that the commercial interests are of vital importance in this discourse.

1.2.1. Research Interests

By observing the political and public discourses and statements in the stem cell debate, it is apparent that the arguments are always arranged round the same values, attitudes and promises, and are issued by similar groups of actors. However, there are slight differences in their estimation.

How could in this field of interpretation emerge exactly that discursive formation we find wherever governments consider regulation of this research?

In respect of the different structures, institutions, and actors following questions are at the outset of my analysis: Which actors are involved and what are their interests? What arguments do they use and how are they offered to the public? What forms of public participation can be found or is the decision making process dominated by experts?

1.2.2. The Explanatory Power of the Chosen Case Studies

It is a widely acknowledged explanation that different attitudes to stem cell research result from miscellaneous cultural, ethical, or religious values. In this case, however, we look at two nations of very similar political and ethical culture. Nevertheless, the discussion in Sweden differed from that in Denmark and finally led to another form regulation.

The present case study focuses on two Scandinavian welfare states for several reasons. It seems an interesting challenge to compare two states with relatively same cultural background based on the Nordic values but regulate differently. In general, the Nordic countries are presumed to be particular attached to technological innovation and scientific progress. Sweden is a leading nation in stem cell research and one of the most relevant suppliers of cell lines worldwide (Herrera, 2005). Even Denmark seeks to join this avenue of research. In Denmark research on embryonic stem cells is allowed and

also research on imported stem cell lines is permitted, whereas in Sweden also the derivation of these lines and even therapeutic cloning is allowed.

The explanatory power of the chosen case studies rests in its similarity. The comparison of similar systems can clarify how other parameters, besides cultural and societal aspects influence the policy process and facilitate the observation of the patterns of decision-making. Similar countries apply to similar frameworks. This contains the chance to turn attention to remaining differences. This research strategy is useful, when the aim is to explain slight differences in the interpretation of arguments, or varying levels of their politisation. From the analysis it can further be concluded that these differences depend also on other forms of policy-making and power constellations. Thereby Sweden appears as typical example for pastoral power, whereas in Denmark the principle of consensus is high valued.

For an investigation of such similarities and differences discourse analysis is most eligible, since different understanding and evaluation of an issue can be explained at best along the argumentative lines several actors employ in the discussion. In its very nature discourse analysis is interpretative. The analysis of narratives goes far beyond actors and institutions, while it is also looking at ideas and concepts. Those are rather found in the interpretation of story lines (Fischer, 2003).

1.2.3. Methodological Remarks

The research design is influenced by the description of document analysis, desk research and helicopter interviews as tools of Critical Discourse Analysis. (Hajer, 2005: 306-207).

The analysis of law texts and policy documents, as reports and parliamentary debates expose the most common and frequently iterated arguments. An investigation of the databases of the Swedish and Danish parliament with the keywords “stem cell research” and “therapeutic cloning” showed which questions were discussed intensively.

An overview of the literature in this field shed light on different emphasis in the argumentation in both countries and on what aspects the literature in the case studies countries is devoted to. Further I conducted helicopter interviews with actors and experts from the sciences, as well as from the humanities that could provide me with more specific explanation and insights to processes, issues and attitudes.

The analysis of the media coverage explains how information on the issue was delivered to a wider public by analysing the strategy of information policies. Subject of the media

analysis were Swedish and Danish newspapers, as well as other media. However, different issues in different countries throw up a different range of material. For instance, the material in respect of the media discourse in Sweden was much more voluminous and since Denmark used different information policies it was difficult to compare systematically.

A substantial result of my observations of the heSCR discourse in Sweden and Denmark is that the debates are always centred on the same arguments. Arguments are the “basic unit” in policy analysis (Fischer: 2007). In analysing these arguments I do not focus on the specific content of the arguments but rather on their structure and the conditions in which they were uttered. It is not only the content of arguments, which define if the argument will prevail. It is also of relevance who utters an argument and in which context. In this meaning „argument“ can be substituted by „statement“. An appropriate tool for analysing statements, their structure and interaction is discourse analysis. Before I address in detail how discourse theories can be applied to policy analysis I sketch out my own conception of discourse and its relation to power and biopolitics.

1.2.4. Discourse and Biopolitics

Discourse is not only a synonym for discussions or an assemblage of statements. Further, not only statements in form of oral or written utterances belong to the discourse. I conceive also pictures and performances, which express convictions, as statements. Discourse describes a system, which is not only defined by consistent definitions for the same phenomena. Moreover, it is a field that includes also practices, technologies, actors and their positions. Discourse, therefore is not a fixed construction, but it is also subjected to permanent alterations and new interpretations. Due to this diversifying character, discourses have their own historicity. Discourse analysis can therefore not only be reduced to an analysis of statements. Discourses are based on specific discursive rules, which define what can be said and what cannot. In other words, they define what is part of the discourse and what is not. These rules also determine who is legitimated to speak und who is not. Thereby they constitute the position of the speaker. The discourse defines what can count as true and what counts as false. By this, it distinguishes the right knowledge from the irrelevant one. It thus creates knowledge. On the basis of this knowledge and its ascribed meaning the speakers' positions are consolidated or even removed.

This way knowledge constitutes and strengthens power positions. I am interested in power constellations in order to demonstrate various forms of conduct, since asking for the conduct is the essence of policy analysis.

My considerations on discourse are influenced by the theory of Michel Foucault, since his work provides several concepts and thoughts, which are most suitable for this comparison. Foucault drew attention to the constitutive role of discourses and was involved with their reinterpretation, alteration, and transformation in the course of time. He especially focused on the rules, which facilitate discourse and was engaged in explaining the linkage of power and knowledge. In conceptualising his ideas of biopolitics and pastoral power he was also concerned with the issue of welfare. Not at least of this connection this Foucauldian concept is suitable for analyzing welfare states. Biopolitics is defined as power over life and death and directed at the individual. According to this definition biopolitics is an appropriate theoretical approach for this analysis. I conceive biopolitics also as body politics, in so far as, instead of the population, the individual is in the centre of governing. While knowledge and medical innovation increased the unities on which this biopolitics is aimed at became smaller and smaller; first the entire population, then the individual, the body and its organs, and finally its cells. Biopolitics is a politics, which is aimed directly at the individual and at life itself. The politics of the approval of stem cell research is such a case. A further reason for the chosen theoretical approach is thus the observation of the power-knowledge relation, since life sciences and stem cell research are knowledge-based issues, in which professional knowledge plays a key role in defining power positions.

2. THEORIES AND CONCEPTS

2.1. Discourse and Archaeology

Based on the understanding of actors and institutions as social constructs constituted by specific statements I draw my analysis upon Michel Foucault and his discourse definition in “The Archaeology of Knowledge” (2010) where he provided a constitutive theory of discourse.

We shall call discourse a group of statements in so far as they belong to the same discursive formation; it does not form a rhetorical or formal unity, endlessly repeatable, whose appearance or use in history might be indicated (and, if necessary, explained); it is made up of a limited number of statements for which a group of conditions of existence can be defined. Discourse in this sense is not an ideal, timeless form that also possesses a history; the problem is not therefore to ask oneself how and why it was able to emerge and become embodied at this point in time; it is, from beginning to end, historical- a fragment of history, a unity and discontinuity in history itself, posing the problem of its own limits, its divisions, its transformations, the specific modes of its temporality rather than its sudden irruption in the midst of the complicities of time. (Foucault, 2010: 117)

According to that definition discourse analysis cannot only be limited to linguistic or communicative analysis. Instead, discourses are conceived as societal processes ordered by a set of certain rules. These rules define the conditions of the existence of the discourse. Foucault called them rules of formation. They order the discourse and constitute and substantiate relations of power and knowledge, because they define the frame of what can be said by whom, when, and in what context. Thus the discourse establishes relationships between the statements uttered in the discourse and the subject, or the content and the speaker. Hereby, the discourse unfolds its constitutive power by positioning the speaker to a particular place in the discourse and defines his plausibility and legitimacy.

“Rather than focussing on people making discursive statements, he <Foucault> emphasizes the way in which discourses make people.” (Fischer, 2003: 38). The central elements of the discourse are statements, or *discursive events*. Statements issue the truth. In the centre of analysis is not the semantic value of statements but their value of truth.

Truth, in this context, does not mean an objective truth, but rather what can be taken to be true according to those rules. Truth therefore is built by discursive conventions. The discursive conventions contain also objects, object relations and subjects. In other words, they contain actors and statements, speakers and content. The speaker obtains a particular position and identity within the discourse. These specific knowledge positions determine if the uttered statements can count as the truth or if they have to be rejected. Thus statements constitute relations between the content of the discourse and the subjects in the discourse., or in other words the statements and the speaker. This relation encloses a power potential. From this perspective one can argue that discourses not only produce knowledge for the relevant field of discursivity, but also power.

Whereas politics in modern political and social theory is largely explained in terms of institutionalized state politics and laws, mainly designed to impede or promote the action of individual citizens, from Foucault's point of view power is dispersed as well throughout the spectrum of social relations. Manifested in multiple and ubiquitous ways forms, political power no longer belongs to the state alone: it is everywhere. (Fischer, 2003: 39-40)

In discourses power and knowledge are conjoined.

"Knowledge is therefore generated through a system of ordered procedures for the production, regulation, circulation and operation of statements. The product of science and technology are sociotechnical; they work because they are embedded not only in material practices but also in cultural practices that stabilize and naturalize the technologies for producing knowledge and power." (Kay, 2000: 18-20).

Knowledge and power are not just mutually dependent, like stated in the well-known dictum "knowledge is power". Moreover they constitute each other. The essence of the examination of discourses therefore is not the analysis of statements and their content, but the rules of formation that order the discourse and emphasize its constitutive power. As Foucault once stated, it is not about what knowledge is and what power is and how the one oppress and abuse the other; the point is to characterise a nexus of knowledge and power in order to grasp the acceptability of a system (Foucault, 1992: 33).

2.1.2. Archaeology and Genealogy

The analysis of discourse is therefore an analysis of statements. However, it is not the analysis of the statements content or their claim to be the truth, but an analysis of the rules of formation that facilitate the discourse. The mere description of these rules of formation is the aim of a method Foucault called Archaeology.

In the *Archaeology of Knowledge* (2010) Foucault analyses how in various positivist sciences, like medicine, new knowledge is developed by discursive regularities.

Archaeology is rejecting the traditional methods of the conventional history of ideas, as there are comparison, the deployment of typologies and the search for causal explanations, or explanations related to a presupposed mentality or *Zeitgeist*. (Foucault: 2010). Foucault described his archaeological project as a research field that contains skills, views, and attitudes of a society but also its habits and customs, its institutions, practices, and technologies. This implicit knowledge differs from scientific knowledge and philosophical or religious theories. It is this knowledge that enables at a specific point in time a theory, an opinion, or a technology to emerge. Archaeology is searching for this common knowledge; or the “level of the constitutive historical knowledge” (Foucault, 2001: 645, my translation).

The aim of Archaeology is to problematise a matter or subject and the way it was presented and conceived in the course of history. In contrast to traditional history, Archaeology is not interested in comparisons and iterations, so to say in continuities. Instead it emphasizes ruptures and discontinuities. To unearth these discontinuities Archaeology uses the *archive*. The central method of Archaeology is the description of the archive of a particular culture or civilization. The archive is defined as “*the general system of formation and transformation of statements*” (Foucault: 1981, 188). Archaeology conceives discourses as historical practices of the archive, where statements are preserved, repeated and changed. It aims to unearth the immanent truth constituting the rules of the discourse by focusing on the revelation of the historical conditions that facilitate the circulation, preservation, or alteration of statements. The archive keeps all the things said within a society, which are deemed valueable, are re-used and iterated, and changed in the course of time. By employing the archive Foucault reach out to the question, “*how is it that in specific points of time certain things can be said, whereas others have never been said*” (Foucault, 2001:1000, my translation).

In his later works Foucault was dealing with the question of power and deployed the concept of *Genealogy*. Genealogical history is the counterpart of traditional history of ideas, since it renounces a teleological ethic and does not assume hidden meanings in the discourse. Though some critics argue that archaeology and genealogy are contradictory concepts and that Foucault did never account for a satisfactory way to distinguish between them, others note that the combination of both allows for a “*problematization of practices*” (Howarth, 2002). From this point of view genealogy appears as a deepening and supplementing of the archaeological approach.

(...) whereas the archaeologist wears the mask of a spectator who simply describes discourses, the genealogist diagnoses the problems of contemporary societies by examining their historical emergence and formation, while proffering cures and alternative trajectories of development (Foucault, 1984 b, p. 46). (Howarth, 2002)

In contrast to Archaeology where the fundamental terms are the statements and the archive, the basic notion in genealogical history is power. While Archaeology is reconstructing discourses as historical practices of the archive, genealogy is devoted to the analysis of the production of power and knowledge positions. This way Foucault described different historically changing power constellations and their specific characteristics.

2.1.3. Pastoral Power

By analysing power along his genealogical approach, Foucault identified a certain type of power, he once described as “*the most peculiar and characteristic power constellation of the occident*”. (Foucault, 2004: 194, my translation). Thus he refers to what is called pastoral power. It is conceived as the power a pastor exercises over his parish. The concept of pastoral power is rooted in the image of the shepherd and his flock in ancient Hebrew tradition.

In early Christian thought the theme of the shepherd and the flock was transformed to describe the relationship between a pastor and his parish.⁶ This relation is signified by a mutual and complete dependency. Like the shepherd needs to know his flock in whole and in detail, also the pastor knows his parish in omnes et singulatim. It is thus an

⁶ For the sake of completeness Foucault also mentioned the occurrence of the shepherd’s figure in ancient Greece (for example in Plato’s *Politikos*), but explained that the shepherd in this context does not represent a politician.

individualising power. For exercising this power the pastor requires certain knowledge of each member of his flock and he acquires that knowledge by exercising this power over them.

The pastor has not only the duty to guide the flock to salvation; he also has to serve them as an idol to achieve this salvation. As a result, this relation develops an economy of the merits and failures both on the part of the shepherd and on the part of the flock. Furthermore, the shepherd is accountable for the instruction and the guidance of conscience of his flock. Thereby he is shepherding them to a form of conducted self-examination- an exposure of the self of his sheep. In accordance to the linkage of body and soul, as it was embedded in early Christian thought, pastoral power means not only to conduct the flock in its movement, but a “government of souls“. As a matter of consequence of this self-conduct and an unearthing of the hidden truth of their souls the individuals constitute themselves.

The decisive element of pastoral power and its main objective is the welfare of each and all. Thus pastoral power is a quintessential benevolent power (Foucault, 2004: 188). It is a power of care (Foucault, 2004: 189). The idea of welfare is also derived from Christian thought: the principle of welfare states can be traced from the early Christian conception of “care“ (Dean, 1999). Thus the old theme of the pastorate is transferred also into the new institutionalised forms of power exercised in “early modern“ welfare states. In modernity finally the old conceptions of the pastorate becomes- by the introduction of new technologies and by an extended knowledge about individuals - a new form of power namely, biopower⁷.

2.1.4. Biopolitics

However, there is one point on which contemporary pastoral power differs from its early Christian version, the individual is now „normalized“ in relation to scientific knowledge of populations. The effects of pastoral power are intensified through what Foucault called bio-politics, (...). (Dean, 1999: 76)

At the same time modern states were built and the increasing meaning of positivist sciences gained a detailed knowledge about individuals and populations a modern form

⁷ According to Foucault I use the terms biopolitics and biopower synonymously.

of pastoral power took shape, in which the individual is normalised. The concept of pastoral power is thus applied to describe various forms of conduct. It is not only used to describe the technologies of the self of the individuals, but also in various forms of governmental techniques and in the conduct of population in contemporary liberal welfare states (cf. Dean, 1999). It is also to be found in certain policy fields related to neuroscience and biomedicine (cf. Rose, 2007). Others described the way of pastoral power exercised on the example of the history of medicine and find pastoral traits also in modern public health solutions (Gottweis et al., 2004).

Biopolitics appears during the transition from the 17th to the 18th century. It goes along with the constitution of the “society” as we understand it today, which emerges when the population came into the focus of governmental control and regulation. The objective of this regulation and control is to conduct, to safeguard, to cultivate and order life. Thus Foucault opposes the older sovereign power with a new biopower.

The older sovereign power was defined as the right of an access to life, which assured the prince in an extreme case the power over the death of his subjects. The transition from sovereign power to biopower accompanies the change from “*the right to make die and let live*” into “*the right to make live and let die*” (Foucault, 2008: 1131; Foucault, 1999: 276- 305). For Foucault this biopower is positive in character, since it is rationing life and increases the productive value of the population. According to Foucault the purpose of government is to rule over and to guide the population. This conduct became possible after in mercantilism certain knowledge about the state was built, which can be applied to governmental actions. Hence the orientation towards the sovereign could not produce such tactics; the population itself get in the sight of the observation. At the moment when the sovereign was no longer in the centre the population came to be the “aim and instrument of the government” and biopolitics was born.

At the same time the population emerges the understanding of political economy arose. Political economy and biopolitics are mutually dependent and cannot be divided. Certainly this development was not carried out rapidly, rather it describes the fundamental change of ideas in governing from mercantilism until the rise of capitalism, which made a regulation of the population essential. The accumulation of capital is followed by an accumulation of life. Human life is thus transformed into human labour and its capacity for work (cf. Lemke, 1997).

Therefore biopolitics is always positive, because the rationing of population is directed at its health and the improvement of living conditions, and aimed to protect and increase its wealth (Foucault, 2004). The population conceived as a mass phenomenon necessitated various other mechanisms of power and certain technologies of conduct. The transformations from early Christian pastorate to modern societies resulted in shifted meaning concerning pastoral powers and forms of conduct.

- Instead of individuals the whole population get into the sight of government.
- The individuals are not only individualised but normalised.
- The government of souls changed into a government of populations.
- The care of souls is relieved by the concept of the welfare of each and all.

2.2. Applying Discourse Theories to Policy Analysis

Whereas conventional school of political science privilege either actors or structures in their accounts poststructuralist political analysis avoids such a dichotomization by offering a discourse analytical perspective that acknowledges the importance of structural phenomena and contexts for the understanding of politics without reducing actors to “outcomes of structures”. (Gottweis, 1998: 12)

2.2.1. Story Line Concept

Since my interest is on the policy making process it is necessary to use the discourse theories at hand in a way that facilitate the analysis of policy discourses. Therefore I employ the story line concept by Maarten Hajer (2003). Though closely related to Foucault's definition of discourse, Hajer's definition is much more handier. The constitutive role of discourses is the central element in both of these definitions. The connecting element is the mention of a “set of practices”. The discourse “construes” the positions while it is going on. It disperses and distributes power positions, which define, what can be said by whom under which circumstances. Narratives are stories, which are told and re-told and thus consolidated.

A story line is the shortened form of a narrative. They create in very short form a basic understanding between the discussants. *“A story line is a condensed statement summarizing complex narratives, used by people as “short hand” in discussions.”* (Hajer, 2005).

In his essay „A frame in the fields“ Hajer (2003) suggests to analyse discourses on three levels to which he also includes the substantial institutions. The policy discourse consists of the following three levels. The first level contains the „story lines“. Here we find the myths and metaphors, which are formed within a certain discourse and its content. Story lines are defined as:

(...) generative statements that bring together previously unrelated elements of reality. The main function of story lines is that these short narratives help people to fit their bit of knowledge, experience or expertise into a larger jigsaw of a policy debate. (Hajer: 2003, 105).

The second level contains the „policy vocabularies“. That is a more concrete level in the policy discourse, in which linguistic constructions are contained. They are almost designed by policy makers. Thus terms, mostly borrowed from a scientific or economic jargon, become to be catchwords. These words define concealed concepts, which structure a certain policy. On the third level we find the „epistemic notions“ with these Hajer refers to the understanding of discourse in a Foucauldian sense

Epistemic notions resemble a 'state of mind' or what Foucault called a 'positive unconscious' of knowledge: certain rules of formation that underpin theories/policies but that are 'not formulated in their own right' (Foucault 1970:xi). (Hajer, 2003: 106).

For this master's thesis it will be sufficient only to look at the first level in Hajer's model: What story lines shape the debates in Sweden and Denmark in the case of the regulation of stem cell research? What different myths underlie the discussion in both countries? To answer these questions it is necessary to be aware of the different positions in Sweden and Denmark concerning the stem cell research issue and to check their narrative structure. My interest here is on the question of what meta-narratives they refer to.

2.2.2. Hypothesis

Political decisions are always a result of discourses. These discourses are produced, generated and kept alive by those, who are interested in the realisation or non-realisation of the content. Discourses always contain hopes and expectations, which are raised and generated by the leading actors of a discourse. Therefore politics is always a form of reaction on construed issues and their contents. The hypothesis assumes that the difference can be found in the various narratives or in the narratives capacity to gain acceptance. The theory assumes that always those narrations can succeed that can refer to a meta-narrative, a superordinated narration. However, we have to keep in mind that it is also possible that one group is able to succeed for other reasons.

It is necessary to analyse, which story lines can gain acceptance and for what reasons they are able to succeed. One story line can basically be more persuasive than another but it might also be the case that just the interpretation of a story line is more persuasive. In the following I will analyse and interpret why a certain narrative is convincing and can succeed.

3. EMPIRICAL PART

3.1. The History of Biotechnology Regulations

The fields of science, technology and law are interrelated. Science and technology constitute an arena that predetermines what must be covered by law. Law itself is also able to constitute the boundaries in which science and technology can be developed (Jasanoff, 1995). In questions of the regulation of the biomedical realm the claim of freedom of research encounters the demand of the protection of human life and patients. Especially when it comes to decide on technologies with almost unknown risks and consequences. It is thus a decision about balancing interests and a decision whether specific forms of self-regulation are sufficient or if there is demand for legal regulation.

The aim of this chapter is to examine how human embryonic stem cell research and somatic cell nuclear transfer are regulated in Sweden and Denmark. The main focus is not on the actual output or the wording of the laws, but rather on the ideas and arguments articulated in this process, as well as on its legal dynamic. By formulating and passing a law the legislator determines what is seen as a society's pivotal values and how they can be protected in an adequate manner. Therefore the core question in this chapter is what interests are deemed worthy to protect by what means and what is the argumentation for this?

For a better understanding of how the regulation of stem cell research was achieved it is important to examine how it was embedded into already existing legal frameworks regarding biomedicine. By reverting to the history of the legal discourse it is possible to uncover the policy narratives that have been developed along the discussions on how to think and talk about fertilized egg cells. These narratives define also the discursive frame for the discussion on when life begins; and in the very end the frame for the argumentation in the stem cell discourse.

As embryonic stem cell research requires fertilized egg cells the regulation concerning these egg cells are of prime importance. The application of IVF made fertilized egg cells available in the laboratory. Additional to the treatment of involuntarily childlessness it was now also possible to study the development of human life in its earliest stages under laboratory conditions. In Sweden and Denmark, as in other countries, this led to discussions on how to deal responsibly with these new possibilities. In many countries committees and boards were installed to discuss these issues.

3.1.1. The Price of Progress

In Denmark such a committee was established in 1984 to discuss the ethical problems raised by technologies as IVF and embryo research. In its final report “The Price of Progress” with the original title “Fremskridets Pris” (Indenrigsministeriet, 1984) it was suggested to give legal permission to research on spare embryos for the purpose of the improvement of IVF- technologies. Furthermore, the committee recommended installing an advisory board to discuss the ethical dilemmas in the field of biomedical regulations. Following the recommendations in the “Price of Progress” the Danish Council of Ethics was established in 1987 (Koch/ Zahle, 2000; Achen, 1997). Folketinget, the Danish parliament, decided that research on fertilized egg cells should be totally prohibited until the Danish Council of Ethics have prepared a bill on this issue (Hartlev, 2006; 2007).

When the parliament discussed biomedical research in general, the question about the legalisation of research on fertilised egg cells was integrated into the greater context of research on humans. At the end of the process the *Act on Biomedical Research Ethics Committee*⁸ was passed in 1992. This law was the first attempt to a legal regulation of the research on fertilized egg cells. It regulates the approval of biomedical research projects and contains guidelines for the regulation of research, the protection of test persons and patients, and the principle of informed consent, which allows research only in conjunction with the consent of test persons or donors (Frost, 1999a; 1999b). By passing that law the former ban on research was abolished and research on fertilized egg cells for the purpose of improving IVF was permitted.

Finally in 1997 this law was transferred into the *Act of Assisted Reproduction*⁹ when it was amended in order to open up for genetic testing of fertilized egg cells, the so-called PGD (pre-implantation genetic diagnosis or embryo screening). This law also captures the regulation on embryonic stem cell research. The *Act on Assisted Reproduction* was already passed in 1997 and was adopted since then several times, with the latest

⁸ Lov nr. 503 af 24. Juni 1992 om et videnskabsetisk komitesystem og behandling af biomedcinske forskningsprojekter.

The translation of the original Danish and Swedish laws follows the translation used in Legislation on Biotechnology in the Nordic Countries. An overview. Nordic Committee on Bioethics. 2006.

⁹ Lov nr. 460 af 10. Juni 1997 om kunstig befrugtning i forbindelse med laegelig behandling, diagnostik og forskning m.v.

adoption in 2006 (Hartlev, 2007). It does not only define the framework for fertility treatment, but also regulates embryo research as well as research on fertilized egg cells and germ cells. According to the law research on fertilized egg cells can only be permitted, when its purpose is to achieve new knowledge. This purpose refers to the improvement of IVF-technology but also to the improvement of the procedure of PGD (Hartlev, 2006; 2007).

When the innovations in stem cell science led to vivid discussions in Denmark (Koch, 2003; Horst, 2008a) an important extension of the law was necessary. Regarding the permission of embryonic stem cell research in Denmark the *Act on Assisted Reproduction* has its shortcomings. Actually the law can be interpreted as a ban on stem cell research, since research on stem cells does not involve any research that helps to improve IVF or PGD.

In 2001 the government established the Gene Technology Committee to evaluate the possibilities and risks of bio- and gene technology. In its report the Gene Technology Committee recommended to find a political solution as soon as possible, since the new technology was considered especially promising (Genteknologieudvalget, 2002).

After the debate in the parliament and a public hearing (Biosam, 2003), organized by the Danish Board of Technology¹⁰ in January 2003, this process resulted in the introduction of the bill L209. It was intended to open the *Act on Assisted Reproduction* for human embryonic stem cell research. It was finally passed in June 2003 and permitted embryonic stem cell research on the grounds to improve the treatment procedures for serious diseases. Furthermore, the law captures several regulations concerning the handling and storing of fertilized egg cells. Thus any research project always requires an approval by a research-ethics committee and the informed consent of the couple that donated the egg cells. After fertilization the egg cell can be kept alive for 14 days, an eventual period of freezing is not included in that time span.

Furthermore, research is only permitted on surplus eggs. The regulation is intended to limit the egg cells admitted to research taken into account, since according to the Convention on Human Rights and Biomedicine (1997) it is prohibited to create embryos solely for research purposes. The Convention also contains a ban to create an embryo by

¹⁰ Teknologiradet www.tekno.dk

using SCNT, since this involves the creation of an embryo for research purposes. Moreover, there are further regulations in the *Act of Assisted Reproduction*, which avoid the creation of nuclear transplanted embryos (Hartlev, 2007). Therefore not all forms of embryonic stem cell research are allowed in Denmark. Besides this general regulation for research on fertilized egg cells, no other specific rules for embryonic stem cell research are valid.

Another focal point concerning the legal framework of stem cell research is the area of research on stem cell lines. Since research on stem cell lines contains no direct research on fertilized egg cells the rules in the *Act on Assisted Reproduction* cannot be applied to this area. However, the creation of stem cell lines requires fertilized egg cells. It is allowed to import embryonic stem cells from abroad, as long as they are derived from fertilized egg cells, which would also have been admitted for research in Denmark. In other words, surplus egg cells donated with the informed consent of the donors (Hartlev, 2006; 2007). Basically research on stem cell lines has nothing in common with the aspired improvement of IVF treatment.

In conjunction with the EU-Directive 98/44/EC on the legal protection of biotechnological inventions, the Danish patent law provides that no patent can be granted on inventions involving the application of human embryos. It was discussed if this prohibition can be interpreted that way, that no patent can be granted for embryonic stem cell lines. The folketing was of the opinion, that in case the patent law was interpreted that way, no patent can be granted for embryonic stem cell lines, since they are developed on the basis of fertilized egg cells. Thus a patent on stem cell lines would be in effect a patent for the exploitation of human embryos for industrial and commercial reasons.¹¹

¹¹ Whereas the British patent office has granted a patent on human embryonic stem cell lines on the argument that no human being can develop from a stem cell line (Hartlev, 2006).

3.1.3. Breaking the Divides

In the history of the Swedish legislation on stem cell research the *Abortion act*¹² is of prime importance. The law was enacted in 1974 and this was the first time when embryo destruction was discussed in riksdagen, the Swedish parliament. Other narratives of course also determined the discussion about abortion, too. Thus the decisive argument for the legal permission of abortion was the woman's reproductive autonomy and her right to decide about her body by herself. Of course, that argument is only partially linked to the challenges and questions posed by stem cell research. However, the discourse on abortion created still valid views about the embryos "dignity" or "worth".

These definitions were reactivated when it came to decide about embryonic stem cell research. According to formerly held beliefs in the Swedish discourse the embryo was said to have a "worth on its own" (egenvärden). With the abortion law from 1974 the embryo was defined as a part of the female body (Kulawik: 2003, 14). Yet, the abortion law established the basis for the genetic committee's decision to recommend the application of embryos from IVF in embryo research. The decision was founded on the argument that along the increasing level of development of the human being also the embryo's right of protection increase.

The Swedish parliament initiated the Commission on Genetic Ethics in 1982 to discuss the ethical and social implications of the application of biotechnology on humans. In 1984 the commission published a report with the title "Genetic Integrity" (SOU 1984: 88). Based on this report, in 1991, finally the *Act Concerning Measures for Purposes of Research or Treatment Involving Human Ova* (SFS 1991:115)¹³ was passed. It permits research on fertilized egg cells up to 14 days after fertilization on spare embryos. Also here the informed consent of the donors was a requirement. Anyway, the implantation of egg cells used in an experiment before, is not allowed.

Critics emphasize that the formulation of the law is rather vague, because neither research on stem cell cultures nor cloning itself is explicitly prohibited in the law text. This led to a "legal gray area" (Kulawik, 2003: 5) and was the reason why research projects concerning biotechnological projects increased.

¹² SFS (Svensk författningssamling) 1974: 595 Abortlagen

¹³ SFS 1991:115 om åtgärder i forsknings- eller behandlingssyfte med ägg från människa

There have also been hardly any restrictions in the area of stem cell science, which was additionally supported by the Swedish Research Council (Persson/ Welin, 2008).

Though a research-ethics committee was established to develop ethical guidelines for research, but these were only of guiding character and included no legal restrictions at all (Kulawik, 2003). Since the law on embryo research explicitly regulates the handling and treatment of fertilized egg cells, the question was raised what can be seen as valid for embryos created by other means than artificial fertilization, e.g. nuclear transplantation. If the law cannot be applied for that case, Sweden lacks a prohibition of cloning of human embryos, as well for reproduction as for the supply of tailor made stem cells of a specific genetic configuration (Rynning, 2007).

In 1997 the government initiated the establishment of the Biotechnology Commission in order to discuss the challenges of the new biotechnology. The committee ended its work in 2000 and published a report with the ambitious title "Breaking the Divides: The Possibilities and Risks of Biotechnology" (SOU 2000: 103).¹⁴ This report dealt with all areas of biotechnology. The application of gene technology in the agricultural sector was discussed as well as the application in the health care sector. This was the first step towards a general biotechnology policy for Sweden. Due to the circumstance the law only contains the work on fertilized egg cells and thus produces a legal gray zone, the government appointed the Commission on Genetic Integrity to develop guidelines for the regulation of stem cell research. The report of the Commission on Genetic Integrity suggests to open the law 1991:115 on the treatment on fertilized egg cells in a way, that it also contains such cells, which were subject to SCNT (SOU 2000: 119).¹⁵

The government reacted by introducing a bill.¹⁶ In accordance to that bill stem cell research in Sweden should become regulated and SCNT should be permitted. For that reason the formerly valid *law on work on fertilized egg cells* was renamed into *work on egg cells*. As it was suggested in the report, the government clearly formulated a ban on reproductive cloning. The law amendment came into force on April 1st 2005.

¹⁴ Att spränga gränser- bioteknikens möjligheter och gränser (SOU 2000: 103).

¹⁵ Rättslig reglering av stamcells forskning (SOU 2000: 119).

¹⁶ Prop. 2003/04: 148 stamcells forskning

Today this law is annulled and part of a new law, which can be seen as the first step towards a comprehensive regulatory framework for research on human beings- the law with the title *Genetic Integrity*.¹⁷ It is striking to note that both – the committee on Genetic Integrity and the government's proposition on stem cell research- explicitly suggested a prohibition of reproductive cloning. However, in the law amendment of 1991:115, which have been transferred to the new *law on Genetic Integrity*, contains only an implicit prohibition. While it is prohibited to implant egg cells, which had been formerly subject of research, it is permitted to create cloned embryos and fertilised egg cells for research purposes only. This means that research always had to be owed the respect for the human being. Though this criterion is not always fully clear (Rynning, 2007). Beyond that experiments that may cause genetic effects going into the genome are prohibited. Though the development of such methods is lawfully (Prop.: 2003/04: 148).

The Swedish regulation on stem cell research is not in accordance with the European Convention, since the creation of embryos for research purposes only is forbidden according to Act. 18.2. Sweden has ratified the convention, yet not signed. Also in Swedish law, like in the European Convention, a prohibition of commercialisation of biological human material is in place. The prohibition of commercialisation in Sweden is articulated in *Act on transplantation* from 1995 and was later transferred to the *law on genetic integrity*. It is valid also for human egg cells and cells, which had been subject to SCNT. The ban is not valid – in congruence with the Convention- for tasks interrelated with the collection, storing and analysis of these materials, as well as for products derived from this.

¹⁷ SFS 2006:351 Genetisk integritet m.m

3.1.3. Comparison

In the end both national debates ended with a legislative regulation on stem cell research and research on fertilized egg cells. Thus the legislator demonstrates that he considers stem cell research as an important field for society, which ought to be regulated by a legislative framework. However, these legal boundaries leave different scope for different forms of self-regulation.

While the Danish Council of Ethics prepared a proposal, the Folketing voted for a ban on research. In the period from 1987-1992 research on fertilized human egg cells was totally prohibited. The law from 1992 permitted research on spare embryos until 14 days after fertilization. This research was legalized for the reason to improve the methods of in vitro fertilization. The law from 1992 was the first attempt for a regulation on this issue.

The time before Denmark installed a system of self-regulation, based on the principles stated in the Helsinki Declaration. Hartlev (2007) portrayed that law and its concrete form as a compromise between two requirements: protection of the patient and the freedom of research. The research ethics committee system was integrated into the law from 1992. The Helsinki Declaration established in the 1970s, as a compound of research ethics guidelines for professional researchers. They were not legally binding at all, meaning that there were no possibilities for sanctioning those researchers, who did not fulfil the guidelines. Furthermore, the latest methods in research were also not covered by the declaration.

Since the discussion about the general regulation of research coincided with the discussion about research on fertilised egg cells, this issues was integrated into the greater context of general research on humans. When the issue of biotechnology became ever more important during the 1980s, the Folketing debated a general regulation of biotechnology. The already existing system of research ethics committees were integrated into that. Hartlev (2007) described this as consensus, which acknowledges both the self-regulation of the scientific community, as well as the demand for legal regulation for the protection of the patients.

3.1.4. The Utilization of Human Cells in the Welfare State

The decisive argument in the Danish discourse is that research on fertilized egg cells can be permitted, if the tests are intended to improve IVF. Since the permission of research was linked to the purpose of IVF and the patients of fertility treatment, there is an important connection to reproduction. This poses the question, how to value research that is not linked to reproduction. The Danish law is very detailed and also contains regulations on several prohibitions. Utilization of human egg cells in research on stem cells, which is not directly connected to reproduction, was not lawful. Therefore the law needed an amendment to legalise hESC. This happened on the grounds of the argumentation that this research might result in remarkable advancement in the treatment of serious diseases. There is a shift in reasoning. In the beginning only research was permitted, which can provide new knowledge for IVF, later on the welfare of patients was in focus. Prohibiting research, which could be of use for IVF-patients, could mean discrimination of fertility treatment patients compared to other patients in the health care sector.

In this form of argumentation the principle of minimum reification attached great importance. This policy vocabulary played a key role in the discussion (Hartlev, 2007). To extend the law to embryonic stem cell research violates these principles, since the egg cells are utilized for research, without any connection to reproduction. The breach with this principle was made possible by the treatment argument. Horst (2008a; 2008b) describes this as a shift in the framing. The reason why this principle of minimum reification became important and for the hostile approach towards embryonic stem cell science is that defining the status of the egg cell took some time.

The slide from the reproduction argument to the treatment argument also shows another conception of welfare. The aim was to provide the best possible treatment in health care, which is a legitimate aim in the Danish welfare state. The welfare of the child-to-be and of the family was at the centre of the discussion about reproduction. In the second argument it was the welfare of the patient. Welfare is achieved by providing the best possible public health care system.

In the Swedish model the regulation of research on egg cells was from the beginning not connected to IVF, but was regulated by an own law in 1991. Although the *Act on In Vitro Fertilization* was also founded on what was deemed to be best for the resulting child. Accordingly, the *Act on in vitro fertilisation* only covered IVF treatment and the approach

to that treatment. Research on fertilized egg cells was regulated through a law of its own. (Rynning, 2007: 144). This law contains the same frame, like the Danish one; a 14-day limit for research and the limitation to spare embryos. The bare title of the law stresses the purpose for research and treatment. Since in Sweden the research on fertilized egg cells was not linked to IVF and reproduction, there was no later amendment needed to allow stem cell research.

On the contrary 1991:115 was only weak implemented. The law did not contain specific rules on how to implement it. The implementation of this vague regulation rests with the National Board on Health and Welfare. This is an representative strategy for Swedish policy making. In contrast to the more detailed formulated Danish IVF-law, which contains also concrete prohibitions, in Sweden there was no ban on cloning or research on stem cells. The only limitation that was fixed in the law text was the limitation on spare embryos. The wording of the law, as well as the less restrictive measures, implemented by the National Board on Health and Welfare, led to a grey zone (Kulawik, 2003: 5). This was the reason why the research projects concerning biotechnological practices increased. There have also been hardly any restrictions in the area of stem cells science, which was additionally financially supported, by the Swedish Research Council.

The discussion about the embryos minimum reification and its protection did not play such an important role in Sweden, as it did in Denmark. The status of the embryo was to some extent already defined by the abortion laws and in general, the view on the embryo's dignity was influenced by the argument of its gradual development. According to this assumption the embryo only has a gradual right to be protected. This underscores the approach of the Swedish regulation concerning the instrumentalisation of the embryo. Extended knowledge and the possibility to develop new treatment was estimated higher. Medication is seen as a public good. This is an example for the Swedish conviction that welfare for all can be achieved by research. The question about the protection of the embryo was secondary, since the dignity of the embryo is not a new problem and was already discussed in the abortion laws.¹⁸

¹⁸ Cf. Riksdagens snabbprotokoll 200/01:16. Thomas Östros, Minister for Education and Research, answering a parliamentary question of Alf Svensson (Christian Democrats).

3.1.5. Fremskridets Pris and Att Spränga Gränser

Since the 1970s both states continued to work on a regulatory framework of gene technology. In both cases first laws were enacted later. The approach to a regulation deviated in specific areas, which can be recognized in the actual output. In Denmark research on embryonic stem cells is allowed and also research on imported stem cell lines is permitted, whereas in Sweden even therapeutic cloning is allowed. Denmark ratified the European Convention, whereas Sweden did not. In both cases, in the mid 1980s committees have been established to discuss the issues of biomedical research on humans. If one wants to estimate the differences regarding the modalities and dynamics in the regulatory process, evidence can be found above all in the report of the committees.

It is not only recognisable in the laws itself, that Denmark had a rather reluctant and hostile attitude while Sweden took in a very progressive position. As an impressive image the title of the two reports are very striking. Denmark discussed research on humans and the challenges of biotechnology under the title “The Price of Progress” (Fremskridets Pris). That they recognised themselves in a situation of new opportunities, within a society that is looking forward to face these new challenges is articulated in the title “Breaking the Divides” (Att spränga gränser). Even if this point of view may be criticised for the reason that this comparison is not illustrative because Fremskridets Pris was published in 1984 and Att spränga gränser was only published in 2000, after the path breaking inventions in stem cell research, the titling seems still symptomatic for the particular approach towards the issue. While Denmark all the time holds the view not to refuse new technologies it was, nevertheless, tried to maintain a phase of evaluating and balancing. Sweden wanted to emphasise that Swedish research and along with it Swedish society is oriented towards a promising future. A further striking difference is the way in which the ethical considerations influenced the discussion about the regulation.

In both story lines it can be seen that the legislator has clearly recognised the ethical objections and demands. There is a difference how these new bioethics came into focus. Although there is still no room for backwardness and scepticism of technology in Denmark, society may step by step get customised to the new technologies until the scepticism has shrivelled (Harnow, 2006). The hesitant approach can also be seen if one compares the dynamics of the legislation processes. The Danish legislative framework

can be defined as pragmatic. Within the legal framework considering biotechnology this is apparent by a case-to-case regulation (Hartlev, 2007). It is plainly characteristic for biotechnology regulations that they are often overtaken by the actual technological development. There is a time lag between the scientific discoveries and their recognition and the building of legislation. Thus legislation decided for a pragmatic approach to this problem- it is regulated from case-to-case, whenever there is a new issue or problem at hand (Hartlev, 2007). The Swedish legislation created a regulatory framework, which gives room to factor in new developments. Sweden decided to be one of the first in the race for stem cell research. This can be also seen in the way, some of the laws are interpreted.

Interpretations of legislative regulations can always be stretched to some extent. This stretching can be of limiting or extending character (Olsen, 1999). In Denmark there was a period of unlimited research without any legal constraints. At the moment when a problem was recognised, the problem of the ethical status of the egg cell, it was decided to interpret the valid legislation in a restrictive way until a new and appropriate regulation was achieved. For the span of time while one was not sure if ethical contested projects will be tolerated by the public Denmark trusted in a wait and see policy. Whereas in Sweden, during the period where there was no appropriate regulation for these problems, the Swedish attitude and conviction was to permit research. In the thus created grey zone the keynote was rather to adhere to permission instead of prohibition. Although in Denmark it was tried to achieve a regulation regarding the freedom of research as well as the self-regulation of the scientific community, yet in the phase in which the demand for a regulation was recognised the reaction was limiting. In Sweden the freedom of research was estimated more important and thus the interpretation of the law- was regarding the developed methods and in respect to the opportunities of research- extending and the coming legislation was broadening. As we will see, this is due to a strong belief in science and a strong prideful trust in Swedish research tradition.

Both states use the form of pragmatic legislation and in both states the amendment of vague law texts is usual. In Sweden this is for the purpose to guarantee a broad scope for the administration and the boards for implementation. In the special case of biotechnology legislation we can realise, that Denmark was pragmatic and that Sweden gave way for an ethical conviction, on which the regulation is based.

The argument to achieve the best possible health care system is also very strong. Nevertheless the individual valuation has given more room in the Danish approach, since the public expected an appropriate protection of the individual. In Sweden the trust in experts is deep; the implementation of rather loose regulations is intended to broaden the scope of research. This is an action, which can be accepted by the population.

Denmark's approach seems to be more democratic in the first place, but Sweden with its ethical attitude seems better prepared for upcoming discussions in research issues.

3.2. The Status of the Embryo

One of the ethically most puzzling issues in the evaluation of the permissibility of heSCR has been and still is the question of the status of the embryo. As we have seen before (cf. The History of Biotechnology Regulations), even in the 1970s this question fuelled a debate on whether it is justifiable to destroy human embryos. The development of modern stem cell technologies posed the question again and led to a re-awakening in the interest in the embryo's status. Therefore the issues on abortion and IVF, that were mentioned in the previous chapter, are also of vital importance for the discussion of the ethical evaluation of heSCR.

Although some defend the opinion that utilisation of embryos in research and the issue of abortion should be discussed separately and not discursively linked (Habermas, 2001). Regarding the story line in the legal discourse it seems difficult not to conjoin them, since the issue of abortion defined to some extent the discursive frame of this discussion. By deciding on the abortion laws one have already come to an agreement on what moral status should be admitted to the unborn life. One was afraid that an altered view regarding the rights and the status of the embryo could challenge legal abortion. Yet, in Sweden and Denmark, as in most other countries with liberal abortion laws this is defined as a fundamental women's right. Whereas in case of abortion the women's reproductive autonomy was in the centre of debates, in the issue of heSCR it is the question whether humans may be instrumentalised for research purposes, and above all, if embryos are persons.

3.2.1. Human Dignity and Dignity of Humans

The most contentious point in the issue of the evaluation of its ethical status is if the embryo is entitled a particular protection based on the assumption that the embryo does have a right to life. In contrast to the issue of abortion here it concerns embryos in a very early stage of development. Therefore lot of people conceive them as "cluster of cells" with no particular right to life, whereas others hold the view that embryos constitute persons that owe dignity and thus have to be protected.

In this context it is therefore a crucial question what is covered by the term human dignity. Can human dignity be saved when embryo research is prohibited or is human dignity better protected when the best possible health care for already born persons is ensured? In some other countries heSCR is not allowed because the embryo is defined as a human person with a right to be protected from instrumentalisation by research.

There are different conceptions regarding human dignity. Habermas (2001) for example holds the view that one have to distinguish human dignity from the dignity of humans. According to the Habermasian argumentation human dignity is not an innate right but results from the relation to other humans. A prerequisite for human dignity is thus that a person is already born otherwise no interaction is possible.

For others human dignity is grounded in the particular nature of men (Hermerén, 2000). From this point of view humans owe human dignity simply because of their position within creation. There is a religious interpretation of this argument saying that humans owe a special status in creation because of their likeness in God.

In another interpretation of the exceptional position of humans their natural dignity is grounded in their special abilities that distinguish them from other creatures. Kantian philosophy is often quoted in this context. According to Kant this special ability is reasoning. Humans are able to influence and direct their lives and fill it with meaning. This is a source of their autonomy. Therefore humans inhabit a special status within nature. This special status concedes the inviolability of their dignity and to some extent irreplaceability as a person. This is due to the circumstance that men do not have a price but dignity. For the price there is an equivalent, for the worth there is none. This is the basis for the worth of humans. From this perspective man shall never be used as a means to other ends but are an end in itself. The utilisation of the human embryo in stem cell technologies is in fact a utilization of humans for other means, an instrumentalisation or reification. Kant, however, dealt with humans in general and was not interested in the status of the embryo. The argument of gradual development is a way to make the use of embryos for experimentation possible.

3.2.2. Gradual Development and the Increasing Worth of Human Beings

In Denmark and Sweden ethic committees were established in order to value the status of the embryo and to find a consensus between the diverging views on its dignity. In both cases the committees concluded that the embryo in its very early stages is not a fully developed human being and therefore particular protection for its human dignity is not necessary. In the biological sense the embryo is developing gradually. The gradual development is a way to admit the embryo also an incrementally increasing worth or dignity. From this it results that the early stage embryo may be discarded.

This interpretation is congruent with the British Warnock Report (1985) that justifies research on embryos for the same reason. Scientists and medical experts explain the

gradual development with the development of the nervous system. This point of view is as old as the discussion on whether or not the embryo does have a right to life. There are obvious reasons to use this argument in favour for the right of freedom of research. While for others embryos constitute persons and they use far less scientific grounds to stipulate a ban on using embryos for research. In this special point of view it is not important whether or not the embryo is able of self-awareness.

3.2.3. Ensoulment Theory

The idea of the embryos gradual development is older than the specific methods of medicine to examine the biological development of the human embryo. Human development cannot only be explained within scientific boundaries. There are also other concepts that underscore this idea as philosophical or theological reflections. Another feature of mankind, aside of reason, autonomy and his likeness in God that gives men a particular position is based on what is seen as a common characteristic of men: the human soul. We are now entering theological ground.

Nevertheless the idea of the soul is an imagination, which is not only defended by religious persons. The ensoulment argument is thus not only relevant in a religious context. The idea, that the soul raises humans above all the other animals and thus owes a certain dignity is for most people a valid imagination. Though it is still questionable from what moment the soul inhabits the body and concede a special status. Once a soul is assumed one is operating on divine terrain. Intuitively most people do have certain reservations to interfere in divine creation.

Some hold the view that ensoulment takes place in the moment of conception. Consequently embryos owe dignity and the right to life from this moment. Others defend a view of gradual or successive ensoulment. Aristotle made the first step towards this concept. Thomas Aquinas highlighted his idea of the soul's gradual development again during the Middle Ages. According to that view the human soul develops at the same time with the embryo. Of course, Aquinas did not deduce a right to make die from his findings about the development of the soul. The old concept of the successive ensoulment has its revival in the discussion on the scientific theory of the gradual development of the embryo.

3.2.3. Denmark: Negotiating the Beginning of Life

In Denmark there was no such dominating issue that determined the debate. Rather there were different issues prevailing in different phases. Altogether, the way to the regulation of heSCR was shaped by a steadily dialogue between the involved actors and the aim to achieve a pragmatic solution (Hartlev, 2007). Usually, the political parties of Denmark do not determine the ethical frame of such discussions and are not oriented on party lines to give their members the opportunity to act according their personal convictions (Koch/Zahle, 2000). Thus there was no ethical position that underlies the argumentation. Therefore it is striking to note that the law that accompanied the establishment of the Danish Council implied a passage that says, that the members of the Council should ground their considerations on the assumption that human life begins at the moment of conception (cf. Koch/ Zahle, 2000; Hartlev, 2007).

This passage lead to discussions in the folketing and some expert hearings were organised to discuss the beginning of life. Experts were the members of The Danish Medical Research Council (Statens Sundhedsvidenskabelige Forskningsrad, SSVF) and The Danish Central Scientific Ethical Committee (Centrale Videnskabsetiske Komite, CVK). Members of the SSVF stated that the question whether embryos or fertilised egg cells are humans or conceived as persons is rather a religious or philosophical question not a biological one and therefore no general answer can be found to this question (Hartlev, 2006). Members of the CVK defended the position that fertilisation is an essential but not sufficient prerequisite for the beginning of new life and emphasised that some experts hold the position that the fertilised egg cell after implantation has a gradual human worth. Hartlev pointed out that science in this context cannot answer this question definitely and that the decision when life begins is negotiated between the involved actors. This procedure is therefore an example for the interaction of law, science and politics (Hartlev, 2007).

I would rather defend the view that it was indeed the scientists who were defining the beginning of life. Politicians and legislation lack the professional expertise to specify this point of time arbitrarily. Therefore the question was passed to the scientists that got in this context the power to define this point. Maybe Hartlev wanted to emphasise the tradition of consensus in Denmark. In my opinion this process and the delegation of this question to experts is an evidence for the nexus of power and knowledge and an example for the definatory power of science.

3.2.4. Sweden: Basing Ethics on Facts

In Sweden the comment of the Commission on Genetic Ethics (Genetikkommission) on the research of “zygotes and blastomas” (SOU 1984: 88) was a decisive document when it comes to define the status of the embryo. The gene-ethics committee was established in 1982 by the parliament in order to valuate the social and ethical implications of the application of modern technologies on humans. According to their self-description the commission intends to conjoin deontology and consequence ethics (SOU 1984: 88, 114-115; cf. also Kulawik, 2003). This marks an important difference to Danish institutions, since the discussion starts from a philosophical determined initial position.

In its comment the Commission on Genetic Ethics hold the view that morality is shaped by facts. Therefore the committees based its arguments on empirical evidence. Not the moral status of the embryo is the central question, but rather when life begins. Also the committee is principally of the opinion that the crucial point is fertilisation; without fertilisation new life is not possible. However, the incremental development of the embryo gives reason to only a gradual protection. The fertilised egg cell does not owe the same protection from the beginning. The commission pointed out that according to the Swedish law the embryo does not have a right to life. In earlier conceptions the embryo had a “worth of its own” (egenvärde) but it was made obsolete with the abortion laws. Since then the embryo is defined as a part of the female body.

The commission saw a clear difference between the ethical and legal norms, and clearly prefers ethical norms, since those are more flexible and adaptable to the steadily changing facts (SOU 1984: 88). Kulawik (2007) said that this formulation shows an implicit assumed relation between ethics and technology, presupposing an inexorable progress and reducing ethics to a bare instrument for regulation that has to assimilate to the changing facts. In my opinion this is an example for the belief in progress in Sweden. Therefore the committee proposed to formulate guidelines instead of legal regulations for the research on “zygotes und blastomas”. These guidelines should be oriented to the 10 ethical norms devised by the commission. As a reason for this statement the commission argued that individual and conscious life is possible only after nidation and the following development of a nervous system. Only further research can create the needed knowledge for diagnosis and therapies. The commission suggested a 14-day limit for research, based on the time span of nidation. It thus followed the limit that was also suggested by the British Warnock Report (1985).

Although the commission argued against a legal regulation the government adopted a law in 1991. Kulawik (2007) is of the opinion, that the government was willing to follow the suggestions of the commission to some extent, since the law intended to give a broad room for interpretation. Also the government seemed to hold the view that the ethical valuation should be based on facts and the valuation of those facts (Prop. 1990/91: 52)¹⁹. According to Kulawik (2007) this is an example for the legal and ethical tradition in Sweden that forms the discursive field since the 1930s. It is a linkage of emotivism and legal realism (Achen, 1997).

Another vital point in evaluating the ethical status of the embryo are the comments of the Swedish Research Council (Vetenskapsradet, VR) and The National Council on Medical Ethics (Statens Medicinsk-Etiska Radet, SMER) that evaluated the donation of egg cells in context with heSCR. According to the VR are such donations that are not in context with an IVF treatment more ethical, since they are based on altruistic motives and the donating woman is not in a position of dependence (Vetenskapsradet, 2001: 9). Basically, the Swedish Research Council did not have any reservations considering embryo research, since the worth of the embryo cannot be valued on an objective basis. Though there is a particular risk for instrumentalisation that cannot be averted, but this is also given to a greater extent in organ donations. As a consequence the commission was supporting stem cell research and also therapeutic cloning in order to develop therapies for building new tissue and thus make organ donations expendable. The Council on Medical Ethics disagreed in some point; nevertheless also SMER supported heSCR, because of its promising therapies (SMER, 2002)

¹⁹ Prop.: 1990/91: 52 om användning av genteknik på människa

3.3. The Argument of Lutheran Ethics

Though it was often mentioned that religious aspects have only minor influence in decision making in biopolitical issues²⁰ I will now shift focus to story lines of more or less religious background and vocabulary. In the Swedish and Danish case, however, we have to base our considerations on Lutheran ethics. Even though Sweden and Denmark are highly secularised nations, Lutheran ethics tradition had deep impact on the Scandinavian societies and religious beliefs are reflected in ethical considerations. The argument of protestant ethics is of great importance in finding common ethical attitudes. In fact, some indications underpin the thesis that protestant ethics is shaping the attitude of Scandinavians. One can argue that, however much secularised a society may be, the ethical positions shaped by Christian ethics play an important part in building an opinion on ethical relevant issues (Hallamaa, 2000; 2007).

The tradition following Luther does not know a higher institutional authority that provides ethical interpretations of particular questions for the people, like the Vatican does for Catholics (Andersen, 1999). From a Lutheran position this interpretation is left to the individual as a direct consequence of its intimate personal relationship with God, which does not require a mediator. Specific views and convictions held in Lutheran ethics tradition can lead to different evaluations of ethical issues as in other countries. This can be seen very clearly while observing the description of the relation between men and nature, or to put it in a more religious context, between human and creation. Story lines, which illustrate this train of thought are „playing God“ and „God’s created co-creator“. They demonstrate the attitude towards the issue „intrusion to nature“.

3.3.1. Playing God

Biochemist Leroy Augenstein coined the term in his book “Come, Let Us Play God” (1969), which is an invitation to do so. Philosopher Ulf Görman (2007) discussed the origin of the formula “to play God” and its various interpretations by demonstrating that the story line can be used as a warning as well as an advice. In “Fabricated Man” (1970) Paul Ramsey is criticising the separation of reproduction and sexuality. He expresses the opinion that man should not play God. A prominent counter argument to this is ascribed to the DNA double helix discoverer James D. Watson; *“If we don’t play God, who will?”*

²⁰ “No evidence exists that religion could play an independent role in shaping decision-making in any particular direction in any country.” (Gottweis, Slater & Waldby, 2009: 84).

3.3.2. God's Created Co-creator

The story line of the “created co-creator” is of vital importance for the subject of heSCR and cloning issues, since it is a way to justify man’s intervention in creation. It expresses the view that man is able to co-design nature. Moreover, it is his duty. According to this concept God has given creation to humans not only to govern it but also to design and build it. The theologian Ted Peters, who is optimistic towards biotechnology points out that the human self-transcendence and creativity, which lead to something new “belongs to human nature” (quoted in Görman, 2007: 77). This argumentation is based on the idea of “God’s created co-creator”, which Peters interprets from his standpoint of liberation theology. Instead of discussing, if we should play God we should resonate about how we can play humans (Peters: 1997). Humans as God’s created co-creator came to be a usable phrase amongst modern Lutherans (Görman: 2007).

The concept of suffering in the present life, conceived as a trial from God, is not so distinct in protestant body of thought in contrast to catholic tradition, where suffering is a way to deliverance that will come in the life beyond. In Protestant thinking men can influence and direct their lives, and alleviate suffering.

The Swedish Lutheran bishop Bengt Wadensjö explicitly talks about ‘the principle of blessing’ as a tool for evaluating new technologies, such as stem cell research. We should welcome new technologies that can improve human life and understand them as ‘blessings’ (Görman, 2007:76, my translation).

The basic orientation of the Lutheran view on our present life is a reason that religion and politics can hardly be divided. In protestant thinking there is no clear distinction between protestant and general ethics (Andersen, 1999).

I perceive this as the reason for my observation that some arguments of rather religious nature shifted into the political realm. In the first place the Lutheran values issue the behaviour to fellow men in our present life and does not comply the principle of obedience that characterises catholic ethics. Thus protestant ethics- although based on the merits of religion- can be interpreted much easier in a secular context.

Some of my interview partners confirmed that the Church does not play a part in the political life in Denmark and Sweden. Although resistance against heSCR came from the Christian parties. However plausible it may be that the Church has no voice in this issue, there is still some reason to doubt these statements. Anyhow, representatives of the

Church have been appointed to the ethic councils and commissions. They took part in public debate and opinion making, which can be seen in the media coverage. This opens up a field of persuasion in which statements of representatives of the Church gain special meaning. Hence, there is no official standpoint, since the personal convictions of Lutheran theologians range from refusal to support. That representatives from the Church were more active in Sweden than in Denmark underpins the presumption of the strong pastoral patterns in Sweden. Nevertheless the hypothesis of the importance of protestant ethics can still be valid also for Denmark. Protestant ethics is still part of the Nordic values even though Scandinavians describe themselves as enlightened and secularised; there is a certain level of identification with norms and values of the protestant religion.

Objections came from the Christian Party. Their argument is not a religious one in detail. According to the religious argument intrusion to human nature means interference to God's creation. Discarding embryos infringes the Christian principle of the inviolability of human life, which is conceived as a gift from God. In Denmark the objections from the Christian parties are ethical and concern human dignity. The counter arguments are not centred at the feared societal changes but on the definition of the beginning of life. The argument here is the protection of unborn life, which means one does not fear the results and outcomes of this technology but is merely sceptical towards the research methods. The cleavage in this issue is about the definition of "cell clump" or "human". The following two opposing statements, uttered by the most visible representatives of the Catholic and the Lutheran Church in the public debate in Sweden, will exemplify this cleavage in the religious argumentation.

Erwin Bischofberger, Jesuit priest and Professor of medical ethics at the Karolinska Institutet (Royal Caroline Institute) would agree to therapeutic cloning, as long as it is conducted on adult stem cells. *"No one can convince me, that what is going to be to develop into a human, is cell lines and cell cultures."* (taz 04.02.2002, my translation).

The Lutheran bishop Bengt Wadensjö, which was cited above before, on the same issue:

The basic theological principle that I share is that life begins at conception. (...) This, however, need not mean that stem cell research or nucleus transfer (therapeutic cloning) should be prohibited. (...) The embryo is still not yet a human being, but a collection of cells. (Wadensjö, 2001, translation in Persson/Welin, 2008: 111)

3. 4. Excursus: Eugenics and the Archaeology of Social Welfare

The discursive landscape in the discussion about the approval of stem cell research and cloning issues is also shaped by another story line. It is about the eugenic measures that were pursued in Scandinavia and mark an integral biopolitical component of governmental conduct of the last century. This narrative is actually a counter narrative (Hajer, 2003) or silent narrative, meaning a form of argumentation that is not forwarded in this discussion. From a discourse-analytical perspective also those things are of relevance that are not articulated. Here the question is, why some statements are not accepted as an argument. Nevertheless it is imperative to mention this period of research, since it marks the archaeological origin of, what I will call the *Welfare State Argument*, which is the central narrative for the evaluation of new technologies in Denmark and Sweden.

3.4.1. The Silent Narrative of Scandinavian Eugenic Policies

In the Swedish and Danish discourse the narrative on eugenics hardly appears in public and official debates. Therefore I reflect this delineation to the public discourse by separating this aspect from the rest of this text and inscribe it to its own excursus.

The argument in this excursus is not that heSCR and SCNT involve research for the benefit of welfare but with unacceptable and not tolerable means. That means the argument provided here is not that stem cell research and eugenics have something in common or show similarities. Rather the argument is that experts hold a power position and have responsibility. Defining a paradigm – and that is what experts in science contexts do- constitute this power position. The development of paradigms therefore always has to be discussed in all its details, also in its historical conditions and the knowledge about these processes have to be made available for all.

Nevertheless it is interesting, that the argument was not accepted in the arena of arguments. Especially in the Swedish case this argument was hardly instanced²¹,

²¹ A prominent exception is the case of Per Landgren, which argued in an interview that the same argumentation that allows heSCR could also justify organ donations of Chinese prisoners sentenced to death or medical research on prisoners in Nazi concentrations camps (Moren, 2001). The interview caused furor in the public, but also in his party. As a consequence Landgren had to resign from his positions as parliamentary speaker of the Christian Democrats. In the report *Rättslig reglering av stamcellsforskning* (SOU 2002: 119, 99-123) he published his views on the aspect and tried to clarify his position.

although Sweden not only has had eugenic policies but also well-known eugenicists of worldwide fame were settled there (Broberg /Tydén, 1996). Although story lines of the Swedish research tradition were very often mentioned to underpin the status of Swedish researchers and their worldwide fame it was avoided to talk about this times.

3.4.2. Scandinavian Welfare Eugenics versus National-Socialist Race Hygiene

The Scandinavian argument is that this kind of eugenics did not serve for a racist or racial ideology; rather it was a social democratic welfare state measure.

Cause we have had this discussion in Denmark as well and I did my habilitation work on eugenics, and so (...) But remember that, actually the Danes were eugenic, we had a eugenic legislation and it was not Nazi. It was a welfare state social democratic eugenics, just as in Sweden. So I mean the differences between Sweden and Denmark, there, I mean Sweden was definitely more active in it's eugenic policies than Denmark. (...) Norway was also active, perhaps not more than Denmark, but there are very great similarities in Denmark, Norway and Sweden about eugenic policies. Whereas you can say that Sweden is now the most advanced country in stem cell research, whereas Norway is at least advanced. (Interview, Koch)

In this respect, the story of Scandinavian eugenics is shaped by the strict delineation to eugenics in Nazi-Germany, based on the reason that the Scandinavian form was not a racist or national socialist motivated application of eugenics, rather it was a social democratic welfare state measure. Therefore there would be no discourse on guilt as in similar debates in other countries. Indeed, the German debate was based on the rethinking of its own eugenic past. Germany had so far kept distance to the methods and technologies of embryonic stem cell research, but this was not for the reason on a vague sentiment of guilt or culpability. It was a discussion about the divergence between the right of the individual and the benefit and welfare of all. Rather, there is evidence for a certain morality discourse, in which Germany decided in favour for the protection of the individual- and the developing human being is included to that- and against the benefit for all (Gottweis, 1998).

In Scandinavia rather the social framework was in the focus, which was seen deranged and in danger by the measures that were necessary for the maintenance of the “asocial” elements in society (Broberg, 1996). In fact, there was also racist motivated reasoning in place. This can be seen on the wording of the maintenance of the Nordic race, which was frequently used by geneticists of these times. Moreover, the sterilisations applied on the Tattare (Broberg /Tydén, 1996) are sufficient evidence to the contrary of this thesis.

Some claim the discussion about the intentions of the popular geneticists of those days only serves to discredit the scientists, which were internationally acknowledged experts. Their research, it is claimed, followed a highly standard and was applied according the latest scientific methods (Koch, 2002). It is not really the problem that the knowledge of these geneticists was incomplete- and it was undoubtedly incomplete- but rather the fact, that today we find completely the same situation. Knowledge about modern genetics and stem cell research is still incomplete.

3.4.3. Comparing Eugenics to Stem Cell Research

There is some critique founding on the argument that eugenic policies from those days are not related to present-day research policies. The difference between Nazi eugenics and welfare state eugenics are the forms of compulsion (Roll-Hansen, 1996; Koch, <1996> 2000a; 2000b).

Compulsory sterilisation and castration have indeed nothing in common with today's research on stem cells. These measures are conceived as regulation of the population in the direct sense, whereas research on stem cells serves for the development of new medical treatment. Not the population is in focus here, but individual patients that may be cured by progress in this area. One can state that heSCR and SCNT cannot be compared to eugenic measures, since there is no compulsion and neither the embryo itself nor stem cell lines are defined as humans, and because the bare research does not intrude in the body like eugenic compulsory operations did. Therefore this new methods does not involve the same risk for the life and body of the patient. However, the critique regarding the comparability of both phases of the history in medicine and research hardly ever subjects the aimed purpose. It is much more common to ask, if the comparison is fair (Proctor, 1992).

Mostly the issue of eugenics is associated with national socialist motivated eugenics. Although Scandinavian eugenics was for a much longer period determined by the idea of social welfare reform eugenics, than it was conceived as mainline eugenics determined by racial hygiene (Hansen, 1996; Roll-Hansen, 1996). Therefore the narrative of eugenic policies was not accepted as an argument in the Scandinavian discourse, since it seems not legitimate to relate stem cell research or SCNT and the development of treatment for serious diseases with the Nazis.

Yes, that is how it has been explained, but it is completely..... It has nothing to do with that. It is completely another issue. And is extremely well ethically and legally regulated in the small liberal countries. So, I just can't see the connection. (...) And embryonic stem cells have nothing to do with that horror things, which were done in Germany during Second World War. (Interview, Hovatta)

3.4.4. The Meta- Narrative Welfare is Made by Science

(...) if you go back to the Second World War (..) you have a very strong tradition of social democratic investments in science, and especially in natural sciences, you know, the new welfare state should be made by science. (...) But still I think the social democratic government and the party have a strong, how to say, yeah, believe strongly in what science would do: good things for society. (Interview, Persson)

The narrative "Welfare is made by science" is more persuasive since it functions as a meta-narrative, which is a commonly shared memory. The "argument of eugenics" is not persuasive enough, since the sterilisation laws are not part of the collective narration. The argument of eugenics can be of interest in the debates on stem cell research, when the continuity of the welfare state argument is in the centre of the argumentation, or in other words the persistence of the idea that welfare is made by science.

3.5. The Argument of Naturality

The “argument of naturality” is a discursive construction. It depends on our worldviews and convictions what we deem natural. As a consequence of defining the “natural” one have to ask what the counterpart of natural is. The argument is generally used, when new technologies are discussed, especially when they intrude to processes related to man and human reproduction. Also the valuation of new technologies is to some extent dependent on what is seen as natural. The argument of naturality is therefore a recurrent discursive formation in issues of technology policies. In the discussion about the approval of heSCR and SCNT the question of naturality is very important as well, especially from a discourse theoretical perspective. The term naturality is used as an argument. At the same time the argument and its meaning itself are discursively constructed. But why is it relevant, whether or not we experience a technology as natural respectively unnatural? Of course there is also the question if the problem of naturality is an adequate category to describe such problems. Why is the argument of naturality so often used in discourses about technology and biosciences? Is there a special demand to avoid the unnatural?

By means of the argument of naturality different boundaries can be drawn. It is thus of relevance for demarcation. In order to define such demarcations we think and argue in categories and counterparts (Harnow, 2006). Naturality or Nature can be demarcated against culture or civilization or against unnaturality. Another common counterpart is nature versus technics. That poses the question what is here to be demarcated and what and where is the boundary line? What is enclosed by the notional boundaries of naturality depends on what sort of question we ask and how we conceive the world. It depends on our worldviews what we conceive as natural and how much unnaturality we are disposed to accept. Whether we are open to changes and value them as an improvement or whether we basically will reject them. Our perception on what is natural, how we value nature and where we draw the line to the unnatural is affected by many factors. The views about it can be very different. Rather the valuation is depending on our individual worldviews. In political sciences argumentation worldviews and belief systems are described as relatively stable convictions that changes only very slowly (Sabatier, 1993). These alterations can be the subject of examination. It is these discontinuities that should be elaborated in discourse analysis. A way for analysing them is to classify the worldviews and attitudes to nature into different typologies.

Gill (2003) for example subdivided all the characteristics of worldviews with regard to nature and categorised them along the terms alterity, identity, or utility. Denmark, as well as Sweden, is oriented on utilitarian school of thoughts. In case Gill (2003) was right with his description of the orientation on utility then we can assume that utilitarianism is in tendency very technology friendly. It seems that Sweden and Denmark tend to approve technologies that are deemed in other countries as unnatural. In the case of SCNT there was some persuasion necessary. It seems those new technological innovations and their promises, and their discursive conditions contribute to the extension of what is covered by the term nature.

In our context also the values and attitudes in the case studies countries are of importance. Those data have been collected in different surveys (cf. for instance Fjaestad et. al. 1998; Gaskell et al., 2002 and 2006). In this context it is interesting if there exists particular attitudes or cultural tendencies in Sweden and Denmark. Though we do not ask, if they differ from other states or on what these cultural tendencies are based, but if they change in the course of time.

3.5.1. Scandinavian Perceptions on Naturality

Although there is a strong bias to science and technology Swedes and Danes describe themselves as very attached to nature (Hæstrup, 1995). In this context it is thus of interest what is deemed as natural in Scandinavian common sense. Is the intervention in nature justifiable? In other words; is it natural to support nature? Apart from this closeness to nature, there is also a self-esteem that says that they are technologically high advanced societies, nature is “supported” by man and there is also a reason for this in protestant ethics (Görman, 2007). Evidence that naturality in the Swedish society is deemed as an important criterion can be found in different surveys (Uddenberg, Bråkenhielm & Westerlund, 2000). These works are examinations of the values held in publics. From those it may be concluded that naturality has a positive connotation.

A consequence of this attitude is that naturality is seen as a positive value. This is evident in articulations like “the family ought to be as natural as possible” (Lundin, 1995). This play an important part in discussions about reproductive technologies, an issue which is closely related to stem cell research and especially cloning. In the regulation of IVF in Denmark it says for example that it has to be carried out in a way “as natural as possible” (Bryld/ Lykke, 2006).

This is evidence that naturality is acknowledged to be a positive loaded item, which should be strived for. Therefore the concrete question is: what story lines regarding naturality appeared in both countries and which of them were used especially in the discussion on stem cell research? According to Ideland (1997) in earlier discussions on gene technology one of the more common arguments was that this technology is “unnatural”. By informing the public such reservations get minimized in the course of time. It is expected that the public get customized to it as time goes by (Bogner, 2004).

3.5.2. Demand for New Forms of Technology Ethics

That the matter of the natural has always been important and is a steadily issue for discussions shows the text by Harnow (2006) and his explanations to Aristotle. According to Aristotle ethics is the theory on good life. In analogy to this technology ethics means the theory of good technology (Kemp, 1991). The idea that technology supports the welfare state and thereby creates wealth and prosperity supports the good life. Most innovations are justified with the belief in technology and the support of welfare.

In context with naturality the demand for a new post-natural ethics is claimed (Bryld/Lykke, 2006). One can argue that natural is everything that is like it is and like it always was and take in a conservative position but one can also conceive changes and alterations- as the invention of new technologies- as natural process of development and an increase in knowledge. In this context it is interesting how the issue was dealt with in single questions in the case study countries. For what reason the term naturality was used by what persons in what context to what result?

Modern biosciences have initiated a discussion on how much naturality is intrinsic to humans and what is a consequence of nurture or acquired by environment (cf. Fox-Keller, 1992 and 2010). This does not only influence the way we conceive humankind, but also has effects and consequences for how we will basically value alterations of humankind or intrusion to human nature. The increasing feasibility in biotechnological methods has shifted the borders of acceptance and tolerance in intervening in nature.

3.5.3. Evolution

A common allegation in the discussion about stem cell technologies and cloning claims this would be an “intervention in nature”. That means these technologies are conceived as unnatural. That allegation itself is related to the objection that these technologies are an “unwarrantable interference with creation”.

In fact, it is the same argument just in secularized form. Obviously also theologians or religion in general cannot completely clarify the matter of human dignity (Andersen, 1999). There are some other approaches that discuss this issue from a philosophical or theological perspective. Following one of these viewpoints this question can also be answered after consideration what is seen as natural. It whether rests on religious ideas or is based on a description of evolutionary development that says that mankind should not intrude to the natural course of development, since evolution takes its time. In both argumentations nature is admitted certain integrity (Welin, 2002).

For the defence of unnaturality there are two basic convictions. Something is deemed to be unnatural, cause it intrudes to the divine order (religious argument) and something is unnatural because it interferes in natural order or evolution (Welin, 2002). In prevailing protestant societies, as the Scandinavian countries are, the religious form of this argument can be replaced by the story line of the co-creator. The second argument is based on a special imagination of evolution and can be weakened by a special form of persuasion. It depends on how one is conceiving evolution. In the imagination, in which the interference to evolution is seemed to be unnatural, it is assumed that evolution takes its time.

Like it was shown in the forgoing chapter the story line of „intrusion to creation“ can be replaced by the story line of “God’s created co-creator”. In the argumentative line of naturality this intrusion can be justified in pointing out, that nearly everything in nature surrounding us is created, that there also has been intrusion before. Another argumentation to justify such intrusion can be explained in the attitude, that everything that has been done in laboratory is just a “reconstruction” of nature. The fusion of the egg cell and sperm in the test tube is only a reconstruction of the process in nature. It is not an entirely new process. The process itself is the same like in nature. It is not different, only because it is conducted under control (Interview, Welin).

3.5.4. Backwardness

The counter argument to this is that mankind always intruded and created nature. Especially in the realm of medicine the argumentation of the development of new medicals is favoured. It is also natural to die of serious illnesses if no medication is developed. Favoured story lines are examples from the history of medicine and the development of medicals.

It's kind only be religious, it's like religious argument, and you can't argument against religion (...). On the other hand it's not logical, because also antibiotics and operations are against nature. Before antibiotics in 1940, more than four out of ten children died before the age of ten years. Well, and the people thought it's natural that children die. But we don't think that anymore (...) and most people in Sweden and the Nordic countries tend to think it similarly. (Interview, Hovatta).

Other examples of discussions about naturality in the realm of technology (Harnow, 2006 and Bakshi, 2000) concern transformations and the great inventions in the industrial revolution, like the railroad invention. The mentioning of historical examples for inventions that today are accepted (not to say natural), were also conceived as unnatural by a majority when they were invented. People, who refuse new technologies, since they are perceived as unnatural, are described as backward. It means to be out-dated, not enlightened, not undeceived. No one wants to be described like that. Nobody wants to belong to those, who are laughed at, because they were afraid of the railroad. The notation „backward“ is understood as an accusation, since it does not fit the self-esteem of a progressive science nation. It is an unattractive self-image to be „backward“ and unenlightened.

3.5.5. Disgust

There is this conviction that the public needs time to get customized to controversial issues (Bogner, 2004). In the beginning they often go along with certain disgust like it was mentioned in this interview with special relation to stem cell research.

I mean, of course, that is always an argument that people use just like that: it's unnatural. (...) As long as it's not something they are confronted with personally they consider it unnatural. But there have been, I think there have been studies showing that, whenever people are personally involved, they don't worry about the natural argument, just they want-... If, you were told to die, if you not operate a pigs heart into your body- you want it or not- then I think you would say yes, in spite the fact that it is unnatural. And everything is unnatural. I mean this whole world is unnatural, our way of life is unnatural. (...), I think the argument is a totally bad one. (...) But people have, it is this yuck factor, and it is disgusting (Interview, Koch).

In this period of time lag campaigning and information should persuade the public that these technologies were beneficial. Maybe this convincing is especially an easy task in the case of the Sweden and Denmark. In Denmark the public is aware that IVF is a worthy technology, which is highly advanced in Denmark. Patients and customers from abroad often use this service of the Danish health care market (Hæstrup, 1995). In Sweden scepticism relating gene technology was already diminished in the 1990s when discussion on GMO's was on the spot and also the issue of cloning was present. Therefore scepticism was already reduced and the public get used to the discussion about natural versus unnatural, or was no longer interested. Technology-minded societies are more ready to believe that everything is created and influenced; since "everything is unnatural".

3.6. Modes of Information and Participation

In this last chapter I will focus on specific forms and modes of information in order to underscore the differences in the policy processes that regulate the heSCR and SCNT in Sweden and Denmark. In the first part I will argue that information and different levels of participation are mutually dependent and are dependent on different understandings and styles of policy making. The second part is devoted to the analysis of the public media and its impact on public perception in technology problems.

A salient feature of consensus democracies is that citizens ought to actively participate in deliberative decision-making. A prerequisite for the involvement of citizens is to provide the public with substantial information. Especially when public support is needed or on tasks that may have impact to nature or are otherwise socially relevant it is important to empower citizens' engagement by knowledge exchange. In areas where certain expert knowledge is required, which is the case in most of the life sciences tasks, it is therefore very important to provide the public with the necessary information.

To answer this need national governments establish various instruments and institutions with the obligation to inform the public comprehensively about the technology in charge. The institutions meet this requirement in different ways. There are several options to inform the public. Which one is chosen depends on varying factors, as there are the individual members of the institutions, the general public interest in the issue, and of course, it is not independently of the rest of actions, as activities of other institutions, like patient organisations.

Not only the quality of information is an influencing factor for the involvement of the public. Also the way in which this information is delivered facilitates different levels of participation. So one can say, different modes of information attend different modes of participation and thus display specific policy styles. In other words different modes of information expose different forms of conduct.

3.6.1. Institutionalized Information

An internationally acknowledged best practice model in participatory technology assessment was originally designed in Denmark. This model of Consensus Conference was developed by the Danish Board of Technology²².

It is widely appraised for its deliberative qualities and its good performance in engaging lay public (Klüver, 1995). The original form of the consensus conference starts with preparatory work. In this stage the lay persons are provided with the necessary scientific background and a basic knowledge on the technology in charge. This panel is followed by another round accompanied by experts in the field and held in form of question and answer sessions. Finally the attendees of the conference prepare a document in form of a recommendation for legislation and discuss it with policy makers. Though the Consensus Conference is a well-acknowledged instrument, no one was held regarding stem cell research and cloning. This is probably due to the shortcomings of this model regarding organisational problems, because it requires intensive preparation (Bogner, 2004). It was criticized that selected citizens are not “the public” and addresses people that are interested anyway. Some express their scepticism in describing it as a method of persuasion that gives just the impression of public participation and gives only the appearance of legitimacy. (Interview, Welin). Others defend the model of consensus conference by emphasizing its informative aspects, instead of really being a tool for decision-making.

(...) which Denmark is so famous for, but I mean, that is just a method. And you shouldn't confuse the method with the way people think in general. (...) but in so many ways, it is a kind of legitimization, but it is also something else. Things are always many things at the same time, I think the consensus conference is a way of informing people; it's a way of making people think very thoroughly about the use. (...). It's also a way of legitimizing things, I mean, the more you talk about things, the more familiar they become, and the less difficult it is to accept it. And I'm sure, (...) that is information, you would say. You de-mythologize it, or de-demonize it. So you become less frightened of it, and I mean, you could say, I mean, was there any reason to be so frightened of in vitro fertilization, for instance. Or is there any reason to be so frightened of genetic screening? I mean basically some people are

²² For the history of this Board established by the Ministry of Science and its transformation into the new DTB Foundation, see tekno.dk

helped, whereas others, than other problems arise, but I mean. Who ever thought, that we would ever get rid off our problems? (Interview, Koch)

Describing the consensus conference that way means conceiving it rather as a tool for lowering scepticism and diminishing anxiety in the public. Considering the various modes of information Danish technology policies employ, this seems to be the most significant aim.

However, no consensus conference was organised regarding stem cell research and cloning. Instead the Danish Board of Technology arranged a public hearing in January 2003 in the Danish parliament, to which experts were invited to provide the needed knowledge exchange. The tasks presented in the parliament were also published for a wider access (Biosam, 2003).

Commentators stated that communication between official authorities and the public worked better in Denmark than in Sweden, since Denmark established the Danish Board of Technology with the responsibility to inform the population. Similar institutions exist in Sweden as well, as there is The Swedish Gene Technology Advisory Board (Gentekniknämnden), though it is not dialogue-based but expert-centred and therefore described as deficit-model (Kulawik, 2003). This underdeveloped citizen participation is often issued also in the Swedish parliament. Sweden lacks necessary communicative structures, since the Swedish authorities failed establishing institutions that can meet this requirement. Comparing their self- presentation, the Danish institutions describe their mission - besides of providing information - as to 'create debate in the public', whereas the Swedish pendants underscore the aim of 'bridge building between the political sphere and the world of research' (www.tekno.dk and www.genteknik.se).

Denmark, which is conceived as particular consensus-oriented, used a rather dialogue-based mode of information. During the process of finding a regulation in the heSC field, the official boards organised a plenty of public speeches, lectures and talks in community centres. Furthermore, my inquiries show much more and more comprehensive information material for schools than in Sweden.

3.6.2. Public Media

While this institutionalised modes of information supplied by such boards can only address selected lay public and experts, traditional public media provide information for a broad public. According to surveys traditional mass media, like TV and print media are still the first source of information for most people (cf. Gaskell et al., 2002 and 2006). Therefore I searched how the public media worked up issues as stem cell research or cloning for their recipients. Thereby the classical print media turned out to be the most interesting source for my analysis. Not at least because it should not be missed in this context to mention an actor, which most notably directed the discussion on stem cell research in Sweden.

3.6.3. Dagens Nyheter

An illustrative example of the media's constitutive power is the case of the Swedish daily paper *Dagens Nyheter* and its appearance in this debate, which was described as an "orchestrated debate" (Persson/ Welin, 2008). DN's chief-editor Hans Bergström, who is known for his affinity to new technologies, was strongly interested in introducing the heSCR into public and political debate. He issued stem cell research frequently and finally invited all the political parties to use *Dagens Nyheter* editorials as an arena for political debate and pressed them to come to a conclusion, or at least an opinion.

Where are the other parties opinions on this question? What is the point of view of conservatives and liberals? Where is the Centre Party going? And how far has the Green Party gone, with its view on the „natural“, in its analysis? The pages of Dagens Nyheter are open for clarifications in these issues, central as they are to both Swedish research and politics. (Bergström, 2001).²³

This call was heard and all political parties responded to the appeal. Thereby a political debate took place before the eye of the readers. Bergström obviously filled the gap of the needed public debate by inviting the parties to take a stand and pushed them to come to a conclusion. While he made clear what a preferable conclusion would look like by instrumentalizing the narrations of scientific and economic competition.

²³ Translation Persson/ Welin, 2008: 118-119.

The thinking of governments and politicians should be dominated by one concern: how can we contribute to a Swedish environment attractive to work in, to research in, and to create companies? (Bergström, 2001).²⁴

This statement expresses the conviction that the purpose of political conduct is to improve employment, research, and economy. It thus displays the linkage between Swedish scientism and a productivist paradigm.

No comparable actor could be identified that played such a remarkable role in the Danish case. Therefore the Danish media reports on stem cell research cannot be compared to the campaign, which was initiated by *Dagens Nyheter* editorials. Danish reports on stem cell research and cloning were part of the normal coverage in science and politics reporting. Traditionally the issue IVF is of greater importance and thus gains more public attention in the media. Of course, also in Denmark the political process of decision-making on hESC was accompanied and interpreted by the newspapers in Denmark as well.

3.6.4. From Moral Objections to Legitimate Interests

Maja Horst (2008a) analysed the stem cell debate in Danish newspapers over a period of 15 years. The conclusion of her analysis is that the media by shifting the framing obviously simplified to reach consensus in the question on the permissibility of stem cell research. In the beginning hESC was framed as an issue dominated by two incommensurable ethical principles. The benefits of research were weighed against the protection of the embryo. Under this condition it seems unlikely to reach consensus in this issue. In this constellation the politicians were forced to privilege one ethical principle over another. This seemed not to be an attractive option to policy makers, especially in face of a political tradition that underscores consensual decision-making. Therefore no decision was made in stem cell research. When the media finally changed the framing of their reports, it became possible to make a decision.

Instead of ethical principles the story in the media goes about interests and legitimacy. Particularly leveraging to this process was knitting persons to interests. As an example, Horst delineated the case of a young patient, a little boy suffering from serious illness,

²⁴ Translation Persson /Welin 2008: 118.

whose story was told in the media. This framing helps the recipients to link the technology of stem cell research to an individual fate. This interest is deemed more legitimate than the interest of those who wants to save the unborn life.

Also Gottweis (2007) recognized the turning point in the stem cell discourse in linking the ethical problems of heSCR and the story fate of real persons and emphasised the great importance of emotions in policy analysis. Even though it seems difficult to include immeasurable parameters like emotions to scientific analysis, this way of story telling will undeniable influence the public perception and acceptance of contested issues, and in the end the policy decision itself.

3.6.5. Public Perception

Principally many ways are imaginable to face the problem if heSCR and cloning should be prohibited or not. But how and by what means, and which of the ethical and societal consequences have to be considered, is defined by the framing in the media. This way mass media can also anticipate some solutions, and block others (Horst: 2008a; 2008b). Story lines put already existing knowledge into a clear and interpretable context (Hajer: 1995). The media defining the scale for this interpretation, since framing in the media defines what are the relevant factors in the discussion. Media reports carrying images of risks and hopes or the credibility of science (Ideland: 2002a; 2002b). Referring to specific narratives they also create and transport certain images of the public self-conception.

In Swedish media reports one narrative was significantly often used: the narrative of the science nation. In this story line the Swedish scientists are portrayed as the best in the world. Sweden is designed as a leading nation in scientific research. Sweden's pioneering position should be strengthened and extended. In this context institutions of publicly good reput, as the Karolinska Institute and the Gothenburg University are portrayed as the key actors (cf. Bakshi 2000, Ideland 2002b and Interview, Dahlin-Andersson).

As we have seen before, debating an aspect of the life sciences is hardly independent from the general discussion about biotechnology. In the 1980s –long before stem cell lines arose on the agenda- there has already been a broad debate on gene technology and GMO's. New input to these discussions came in the Mid 90s, when Dolly the sheep brought reproductive cloning to the media agenda. Early media reports on cloning employed the image of the “mad scientist” (Bakshi: 2000).

Today the instrumentalisation of the image of the “mad scientist” would certainly be followed by the accusation of certain “backwardness” (cf. The Argument of Naturality). Public acceptance of new technologies has steadily grown since then (Gaskell et al., 2002 and 2006). The same conclusion can be drawn from a study about Swedish mass media in relation to biotechnology and public perception (Fjæstad et al., 1998). Also the years from 1996-2000 were investigated (Fjæstad et al., 2001) a period where cloning issues and stem cell science became ever more important in the scientific discourse. At this time the media were rather focusing on the benefits of research than to anxieties.

I think it's kind of strategic way. They have chosen that way to promote the possibilities and not the other way. In Sweden when the stem cells be created around 99 or 2000 the media was in the beginning very (...) They have these bad thoughts about this. They talked about Frankenstein and they talked about how to clone people. But after a while you got connections between media and the researchers and they start to talk a lot and after that you can see the media changed, and it was very technical friendly and not that critical and I think we still live in the last way. They don't talk about the bad things, but nowadays (...) don't talk about it t all. That's why I think it's so strange because when they take this law (...) why the media did not take this discussion again? I don't know why. (Interview, Dahlin- Andersson).

Especially in Sweden there were vivid discussions about gene technology from the 1980s on. This is why the Swedish public describe itself as comprehensively informed about the ethical dilemmas and societal implications the modern life sciences may involve. Nevertheless studies on public opinion show that the prevailing opinion held by the Swedish public, that these problems should be evaluated and decided by experts.

3.6.6. Science Is Really Needed- That's All I Know

Klaus L. Høyer (2003) published his findings about the public opinion on donating blood to Swedish biobanks under the title “*Science is really needed- that's all I know*”- *informed consent on the non-verbal practices of collecting blood for genetic research in northern Sweden.*” The conducted interviews show that the blood donors do not themselves perceive a lack of information, but that there is a lack of interest in the offered information. Høyer argues that the decision is not made on basis of rational assessment of information, but a result of moral negotiation. He concluded that the Swedish public

carry irrational anxieties, but on the other hand the confidence in scientists and experts is very strong.

I employ this catchy statement here as a story line, since it confirms the great importance of the science nation narrative in which the trust and belief in science and the pride of Swedish scientific tradition is a central point. In this statement it is obvious that scientific development is seen as an overarching principle of Swedish politics. That matches the scientistic world view, which deem scientific progress as basically positive. In the end it strengthens the welfare state. "Welfare is made by science". Such convictions show pastoral traits when replacing the shepherd by the scientist.

Drawing back to Foucaultian pastoral power once again: a key element in pastoral power is the virtue of pure obedience. The sheep's obedience is at the same time the shepherd's power over his sheep. This form of obedience is not for the reason to fulfil a law in being obedient, or a principle to be obedient, nor due to rational convictions. In the Christian pastorate it means to *'be bound to somebody's will, because it is this someone'* (Foucault, 2004: 256). This relationship of obedience is simply that *"They obey the shepherd, because it is his will"* (Dean, 1999). Foucault called this type of obedience „obeissance pure“ (Foucault, 2004: 254). Later, when the influence of religious authorities decreased and modern nation states were built the monopoly of the truth of the church was replaced by the truth of science. This way a modern, secular pastoral power emerged. This obedience may be an explanation for the following assumption, why Sweden invested less endeavours in informing the public.

Perhaps it's not necessary in Sweden. In Sweden, I think there is a very strong belief in the state. A stronger belief than in Denmark. And you also see that, I mean, finally it was possible to turn over the Swedish social democratic government. But it had been around for the last thirty years almost without interruption. I think in Sweden, even- (...) you shouldn't see it as a setback or problem, that there hasn't been all this education (...) But I think the belief and the trust in the state is very, very strong in Sweden. (...) whereas in Denmark we held all of sorts of scepticism to the state (Interview, Koch).

4. CONCLUSION

While in Sweden experts led the discussion, the public was involved as mere audience. Therefore the Swedish mode of information can be understood as a top-down model.

Denmark made efforts to find ways of information that go beyond this top-down model by linking the stem cell debate to other issues of cultural life. In Denmark technological issues are long discussed before it comes to a decision. They are carried into the public and injected into the debate. This way the public are provided with necessary information and time to develop an opinion or attitude to these questions. This way acceptance for new technologies can be reached by investing time for comprehensive information. Decision makers can wait until the enlightened public is ready to accept the decision. This strategy characterises consensus democracies, which strive to overthrow diverging opinions.

Sweden started from a situation that was completely different to the situation in Denmark. In Sweden solely experts made the decision and they urged to hurry. It was important to find a regulation for an already existing and prospering field, in which Sweden was conceived to be one of the pioneering actors. Hesitation and obstructions could have blocked research. The Danish ban on stem cell research, an already well-sounded prohibition had to be lifted with good reason. A step forward in this field of research needed to be well founded to be acceptable for the public.

The different forms and modes of information also reflect the contrasts between the Swedish productivist paradigm and the Danish strategy of consensus. The Swedish scientism and emotivism do not consider moral objections of that kind that delayed the Danish decision in the beginning.

Nico Stehr (2003) listed some of the most frequent arguments in the assessment of new technologies. Two of them can properly applied to conclude the approaches to stem cell technologies in Sweden and Denmark. "We can not afford it to live without it" and "it is too early", while the first is an example for Sweden and the latter for Denmark. Both of the countries share a utilitarian view. Denmark is more pragmatic and there is also a tendency to morality discourses. Swedish decision makers are relatively free from all sorts of moral objections. This is a consequence of its effective productivist paradigm and its emotivism, which base all decisions on objective facts.

Sweden's strong capacity for taking part in new developments and research is thus more developed than it is in Denmark. Decisions were made exclusively by experts, and are then presented to the public. Of course, one should not underestimate the fact, that an important distinction in the approaches was that Sweden already has had developed stem cell lines. An aspect on the Swedish case is that the country is able to react very fast to developments in the R&D sector. The effect of this is a highly competitive nation. Swedish population are ensured that they can rely and trust their leaders and their scientists, deciding on behalf of the Swedish nations interest in issues, which are highly complicated for laymen. Denmark's strategy was aimed raising discussion with the public. It was more participative. The positive thing in the Danish case is, that they have established procedures and institutions they can rely on, whenever exchange with the population is needed in the future, that certainly will bring new contestation on innovative technologies.

EPILOGUE

On Fish and Sheep

When I decided to write a thesis on the regulation of biotechnology in Scandinavian consensus democracies my main interest was above all in the citizen participation, which Denmark and Sweden are so famous for. After I have had a more closely look at the issue on the deliberation of stem cell technologies in both countries the contribution of citizen participation turned out to be not that important as it was primarily assumed. In both cases the discursive field was yielded or entrusted to those who were presumed to be the experts in this area.

Nevertheless there have been made efforts to deliver appropriate information to the public in order to strengthen their empowerment for a qualified judgement of the risks and benefits of these issues. But also the ways and means in resourcing information and making them available to the public showed several differences, which is demonstrated in the chapter about the public media discourse.

The model of information chosen in Sweden was dominated by experts and chiefly determined by the public media. The citizens took part in the discussion only passively- as the readers of the articles provided within a limited time span by a particular newspaper. In Denmark the experts shared the stage with the public (in the full sense of the word, cf. [www. videnskabsteatret.dk](http://www.videnskabsteatret.dk)). The Danish model of information was an attempt to integrate people and to approach the public on several levels- by giving open lectures and talks, by providing material for schools, and also by performing arts presumably this was due to the purpose to give them the opportunity for careful considerations regarding the new technologies and to get incrementally accustomed to a new vision of what is covered by the terms humankind and identity.

At the first glance the Danish model might seem more democratic, but on the other hand such attempts were eventually not considered necessary in the Swedish case. Obviously, the Swedes did not demand such modes of information and persuasion. They are deeply confident of the advice and the opinion of their acknowledged and appraised scientists, since the Swedish self-esteem is based to a great extent on the good reputation of their scientific institutions and the strong belief in Sweden as a progressive nation of science. Once this meta-narrative was identified I integrated this question to my interviews, whether the interviewees are of the opinion, that in Sweden there is a strong confidence and trust in experts or even in the state and if this may be the reason for the low resistance against the application of contested technologies.

All of my interview partners confirmed this observation. On one of this occasions one of them responded- in a rather joking manner- that the Swedes compared to the Danes are very “obedient” to official authorities, and the state in general. Influenced by Foucault’s concept of power and how it is constituted in knowledge societies, I was suddenly reminded to the concept of pastoral power by the mentioning of the term “obedience”. Now I was wondering: if I would apply the term pastoral power to the Swedish case in my policy analysis on stem cell research, how can I then characterize the processes of decision making in Denmark?

If the Swedes are sheep (of course in the very best meaning of the word) and thus the Swedish society as an entity can be described as a flock following its experienced shepherd in the confidence he will lead the flock on the best way to the intended goal- how then can the Danes be defined? The Danish society as an entity is also oriented towards a common goal, but they also devoted time and room for an individual evaluation. The Danish approach to human embryonic stem cell research was in the first place hostile and turned later into a more progressive attitude, hence there is no decision yet made concerning the common orientation in somatic cell nuclear transfer.

I suggest opposing the image of the flock lead by its shepherd the image of the movement of a swarm of fish (lat: piscis, -is). Since the efficiency of shoaling and schooling, which is a learned ability, is based on three fundamental principles (Viscido, 2004):

- Always move in the same direction as your neighbour (in zoology this is referred to as polarity)
- Remain close to your neighbour (in case of any disruption the fish strive to get back to their original formation as fast as possible)
- Avoid collisions with your neighbour

If one follows this suggestion and calls the way of Swedish policy making regarding stem cell science pastoral, then I assume, it is appropriate to call the Danish style of decision-making in the same policy field piscoral.

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www.videnskabsteatret.dk science theatre, Copenhagen

List of Interviews

- 11. January 2005 Camilla Dahlin-Andersson, member of parliament, Folkpartiet
- 12. January 2005 Anders Persson, sociologist, Linköpings University
- 12. January 2005 Stellan Welin, bioethicist, Linköpings University, former member of Swedish Research Council
- 26 October 2006 Lene Koch, historian, University of Copenhagen, former member of the Danish Council of Ethics
- 21. November 2006 Jens Høiris Nielsen, cell biologist and stem cell researcher, University of Copenhagen
- 22. November 2006 Outi Hovatta, stem cell researcher, Karolinska Institute, Huddinge

Abstract

Im Ländervergleich werden die Unterschiede in der Auseinandersetzung im Bereich der embryonalen Stammzellenforschung und dem therapeutischen Klonen in beiden Ländern aufgearbeitet. Die Arbeit soll zeigen, wie involvierte Akteure und Institutionen die politische Diskussion mit ihren Argumenten festlegen, somit den Handlungsspielraum für die Politik bestimmen und ihre Interessen durchsetzen. Und wie bestimmte Denkweisen und Argumentationslinien, die auch von der Öffentlichkeit angenommen und vertreten werden, konstruiert sind.

Politik, und politische Entscheidungen, finden immer als Reaktion auf einen Diskurs statt. Diese Diskurse werden von jenen „produziert“ und am Leben erhalten, die an der Umsetzung bzw. Nicht-Umsetzung seiner Inhalte ein Interesse haben. Zu den Inhalten eines Diskurses gehören auch immer Wünsche und Erwartungshaltungen (z.B. Heilen bisher unheilbarer Krankheiten), die von den Akteuren, die den Diskurs führen geweckt und generiert werden. Demgegenüber stehen die vorherrschenden Wertvorstellungen einer Gesellschaft, die auf die gleiche Art zustande kommen. *Politik findet also immer als Reaktion auf konstruierte, inhaltliche Schwerpunkte statt.* Daraus ergeben sich folgende Fragen: Welche Akteure sind in die Debatte involviert und welche Interessen verfolgen sie? Welche Argumente werden von ihnen eingesetzt und wie werden sie der Öffentlichkeit unterbreitet? Wie kommt es zu einer Entscheidungsfindung auf politischer Ebene? Welche inhaltlichen Kontroversen durchziehen die Debatte und wie ändern sich diese im Laufe der Zeit? *Welche Narrative sind verantwortlich für die Unterschiede in der Regulierung der Stammzellenforschung in Dänemark und Schweden?*

Die Arbeit versucht verschiedene Zugänge aus dem Bereich der Diskurstheorie zu verbinden. Als Ausgangspunkt dient die Diskursdefinition nach Foucault (1981) und sein „archäologischer Ansatz“. Es liegt auch ein *argumentativer Ansatz* nahe, indem die wesentlichen Akteure und Institutionen berücksichtigt werden können. Denn durch den Diskurs und den darin verhandelten Argumenten, werden die Akteure und ihre Zuständigkeiten erst konstruiert. Damit werden innerhalb des Diskurses jene Machtpositionen und Kompetenzen verteilt, auf deren Grundlage politische Entscheidungen stattfinden. Eine weitere These dieser Arbeit darauf beruht, dass Unterschiede in der Beurteilung dieser Thematik in den unterschiedlichen Metanarrativen Dänemarks und Schwedens zu finden sind. Da mein Interesse den Prozessen des policy making gilt, ist es nötig die vorliegenden Diskurstheorien so anzuwenden, dass Policy Diskurse damit untersucht werden können.

Deshalb stützte ich mich wesentlich auf das diskurstheoretische Modell von Hajer (2003) und seinem Konzept der *story lines*. Aus all diesen unterschiedlichen Zugängen und Definitionen lässt sich ein eigener Ansatz konstruieren, um das Verhältnis von Politik und Sprache für die Policy Analyse fruchtbar zu machen.

Die Diskussion um die Stammzellenforschung wird in beiden Fällen von zwei großen Metanarrativen getragen, die auch eine stark identitätsstiftende Wirkung haben: dem des fürsorglichen *Wohlfahrtsstaates* und dem der fortschrittlichen *Wissenschaftsnation*. Allerdings werden beim Wiedererzählen der Metanarrative die zugrunde liegenden Argumente unterschiedlich gewichtet. Eine Erklärung hierfür können die unterschiedlichen Selbstbilder der Gesellschaften und ihre Grundwerte sein, sowie ihre historischen Erfahrungen und deren jeweilige Aufarbeitung. Dies führt zu einer leicht unterschiedlichen Beurteilung der embryonalen Stammzellenforschung und des therapeutischen Klonens, in der Schweden die Rolle des progressiven, technologiebegeisterten Vorreiters einnimmt und Dänemark eine eher abwartende, doch technologieoffene Haltung bewahrt.