DEPARTMENT OF THEMATIC STUDIES

MASTER OF SCIENCE THESIS

The Politics of Biotechnology and
The Transformative Power of Narratives

Anders Johansson

Tutor: Thomas Achen

LINKÖPINGS UNIVERSITET

Linköpings Universitet, Campus Norrköping, Environmental Science Programme,
SE-601 74 NORRKÖPING
Sweden
**Titel**
The Politics of Biotechnology and the Transformative Power of Narratives

**Författare**
Anders Johansson

**Sammanfattning**
This thesis aims to respond to the need of adjust GMO politics for meeting the demands of the late-modern society and the changed condition that follows from an accelerating complexity. The central objective for this study is to contribute with a narrative understanding of Sweden’s GMO politics with the purpose of examine an alternative possibility for formulating and assessing the politics of biotechnology. This is done by investigate Sweden’s politics of GMO through a narrative approach. I have reconstructed and carried out a comparative analyzes of these narratives. This was the first of two objectives with this thesis. The other objective was to relate the political practice with the contribution and insights of Paul Ricoeur as a point of departure. My effort has been to build upon his contribution of narrative philosophy and fruitful conceptual resources and to reach an understanding of the advantage of a narrative approach in politics. This advantage lies in that it can provide an understanding of the narrative aspects in our daily lives. This would bring sensitivity and reflexivity to the political context. With this sensitivity and reflexivity it hopefully can separate irresponsible politics from responsible politics. This could be done by incorporate the result from this study. A responsible environmental politics departs from the precautionary principle in decision-making, gaining knowledge from interdisciplinary research and tries to correspond to the narrative structures in people’s daily lives. The narrative approach brings a deeper understanding for that political thought and practice is not reducible to other forms of human action.

**Nyckelord**
Biopolitics, GMO politics, GMO, biotechnology, Paul Ricoeur, policy process, narratives, ethics, risks, the public
The Politics of Biotechnology and
The Transformative Power of Narratives

Anders Johansson

Norrköping 2002
Abstract

This thesis aims to respond to the need of adjust GMO politics for meeting the demands of the late-modern society and the changed condition that follows from an accelerating complexity. The central objective for this study is to contribute with a narrative understanding of Sweden’s GMO politics with the purpose of examine an alternative possibility for formulating and assessing the politics of biotechnology. This is done by investigate Sweden’s politics of GMO through a narrative approach. I have reconstructed and carried out a comparative analyzes of these narratives. This was the first of two objectives with this thesis. The other objective was to relate the political practice with the contribution and insights of Paul Ricoeur as a point of departure. My effort has been to build upon his contribution of narrative philosophy and fruitful conceptual resources and to reach an understanding of the advantage of a narrative approach in politics. This advantage lies in that it can provide an understanding of the narrative aspects in our daily lives. This would bring sensitivity and reflexivity to the political context. With this sensitivity and reflexivity it hopefully can separate irresponsible politics from responsible politics. This could be done by incorporate the result from this study. A responsible environmental politics departs from the precautionary principle in decision-making, gaining knowledge from interdisciplinary research and tries to correspond to the narrative structures in people’s daily lives. The narrative approach brings a deeper understanding for that political thought and practice is not reducible to other forms of human action.
The Transformative Power of Narratives

Acknowledgement

In the course of developing this thesis, I have been greatly helped by the advice and criticism of a numbers of friends. Above all, I would like to express my gratitude to Thomas Achen who supervised this thesis. From his encouragement, advice and critical examination, this work is greatly indebted and would have been far inferior without. I only hope that this thesis do some justice to the richness of his thoughts. I thank also my examiner, Karolina Isaksson and my opponent Gabriella Andersson for theirs engagement and constructive critique, which made this thesis better.

I would also like to thanks Belinda Karlsson and Mattias Johansson, which read the manuscripts and made many valuable comments. Theirs engagement and constructive critique contributed in a positive sense. Any errors that remain are, of course, my own.

I thank also my respondents from the Swedish Environmental Protection Agency, the Swedish Ministry of Agriculture, Food and Fisheries, the Swedish Board of Agriculture and the Swedish Ministry of the Environment for their time and effort.

A special thanks for those who participated in the meetings of Norrköpings Studenters Filosofi Förening.

Finally, but hardly least, I like to express my gratitude to my Dad, Mom and Brother, i.e. Björn, Margareta and Peter for their love and support.

Anders Johansson

Norrköping, June 14, 2002
The Politics of Biotechnology and The Transformative Power of Narratives

INTRODUCTION
Science in Late-Modernity 7
Narratives in Late-Modernity 7
Purpose of the Study 10
The Disposition of the Study 10

INTERVIEW METHOD AND THEORETICAL POINTS OF DEPARTURE 11
Interview Methodology 11
Truth and validity 12
The narrative approach in interviews 13
Theoretical Point of Departure 14
Paul Ricoeur and the Narrative Approach 14
Identity and Narratives 15
The Inherent Character of Mediation in Narratives 15
Narrative Competence 16

THE NARRATIVE CONSTRUCTION OF GMO POLITICS 18
The Quest for Knowledge: the Narrative Structure of GMO Politics in the Swedish Environmental Protection Agency 18
Risk Aspects 18
The Public 18
Ethical Questions 19
About Marking GMO Products 19
The Relation to USA/WTO 20
Brief Summary 21
Rationalism and Rationality: the Narrative Structure of GMO Politics in the Swedish Ministry of Agriculture, Food and Fisheries 21
Corporate Aspects 21
Risk Aspects 21
The Public 22
Ethical Questions 22
About Marking GMO Products 22
The Relation to USA/WTO 23
Brief Summary 23
Between Facts and Values: the Narrative Structure of GMO Politics in the Swedish Ministry of the Environment 23
Corporate Aspects 23
The Public 24
Ethical Questions 24
About Marking GMO Products 25
The Relation to USA/WTO 25
Brief Summary 26
### The Transformative Power of Narratives

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectivity and Pragmatism: the Narrative Structure of GMO Politics in the Swedish Board of Agriculture</td>
<td>26</td>
</tr>
<tr>
<td>Corporate Aspects</td>
<td>26</td>
</tr>
<tr>
<td>Risk Aspects</td>
<td>26</td>
</tr>
<tr>
<td>The Public</td>
<td>27</td>
</tr>
<tr>
<td>Ethical Questions</td>
<td>27</td>
</tr>
<tr>
<td>About Marking GMO Products</td>
<td>28</td>
</tr>
<tr>
<td>Brief Summary</td>
<td>28</td>
</tr>
<tr>
<td><strong>COMPARATIVE ANALYSIS AND POLICY IMPLICATIONS</strong></td>
<td></td>
</tr>
<tr>
<td>Comparative Analysis</td>
<td>29</td>
</tr>
<tr>
<td>Corporate Aspects</td>
<td>29</td>
</tr>
<tr>
<td>Risk Aspects</td>
<td>29</td>
</tr>
<tr>
<td>Ethical Questions</td>
<td>29</td>
</tr>
<tr>
<td>The Public</td>
<td>31</td>
</tr>
<tr>
<td>The Relation to USA/WTO</td>
<td>32</td>
</tr>
<tr>
<td>About Marking GMO Products</td>
<td>32</td>
</tr>
<tr>
<td>Brief Summary</td>
<td>32</td>
</tr>
<tr>
<td>Policy Implications</td>
<td>33</td>
</tr>
<tr>
<td>Identity, Mediation and Transformation in Politics</td>
<td>33</td>
</tr>
<tr>
<td>The Contribution of Narratives in the Political Context</td>
<td>36</td>
</tr>
<tr>
<td>New Approaches to Strategy Formation in GMO Politics</td>
<td>37</td>
</tr>
<tr>
<td><strong>CONCLUSION</strong></td>
<td>39</td>
</tr>
<tr>
<td><strong>LITERATURE</strong></td>
<td>40</td>
</tr>
</tbody>
</table>
Introduction

Science in Late-Modernity

In late-modernity, the role of science has become more complex. Science produces questions and answers. Problems as well as solutions to certain problems. Following on from this, the simple notion of truth has become problematic, as the truth seen from one perspective may not be the same as that seen from another. This has led to the public starting to mistrust that science can produce the answers for tomorrow. Individuals in the public society as well as the knowledge-producing institutions have now become forced to deal with the consequences of social action. What were once side effects are now challenging the core of our everyday assumptions. In line with this the “monopoly of rationality” which science disused has begun to break down due to the new set of risks and challenges created by science itself.

The fast progress of science and technology in the field of biotechnology makes more and more political and public interest. A recent breakthrough in microbiology leading to the mapping of the human genome, HUGO project, cloning and genetically modified food has been argued as examples of late-modern threats. These progress provoke questions concerning our comprehension of human beings in a phenomenological and existential way as well as our relation to nature where science serves as both the source of the problem and the ones who offers solutions. This makes citizens become wary of the latest form of progress and of environmental solutions based on the logic of science. “Modernization has ‘burst the categories’ that itself created –pitching us all into a new period of doubt and uncertainty.”

Doubt and uncertainty has characterized environmental politics even outside the biotechnology sphere. Climate changes, the ozone layer, the greenhouse effect and biological diversity is other areas with high uncertainty factors. The environmental meetings since the

1 In this thesis I use the notion of late modernity instead of post-modernity to emphasize on the late phase where modernity is turned out to be today. The conception of post-modernity involves several theoretical assumption, conditions and premises that are not included in the conception of late modernity. For further reading see Achen, Thomas and Karlsson, Magnus. (1993), Teorier om kunskapen i det nya samhället – Debatten mellan det moderna och det postmoderna, in Brus över landet – om informationöverflödet, kunskapen och människan. Carlsson Bokförlag, Stockholm, p. 271-289. See also Anderson, Perry (2000). Postmodernitetens ursprung. Bokförlaget Daidalos AB, Uddevalla for an account of how the conception of postmodernity spreads and change as the global capitalism cultural logic arise.


Stockholm conference 1972 and to date are reflecting the problem of finding sustainable narratives. This thesis is relevant for it bring to the fore how we should construct environmental politics. One of the most urgent intellectual tasks of today is to understand the relationship of ecology in social and political thought. The thesis is a contribution to the need of rethinking the construction of environmental politics in a late modern society.

Narratives in Late-Modernity

To understand how we can live with this doubt and uncertainty in our daily life we need to listen to the narratives that appears together with this technology. The philosopher of technology Peter Kemp is discussing that these narratives are indispensable for orientating in our society as well as our relation to technology. “They are necessary for the knowledge about how we can use techniques and technology and what for.” Kemp points out here is that the narrative language is necessary for us to be able to cope with the determination of technology in our everyday lives. But the narratives are also necessary for understanding the technologies which involve big risks and which might cause economic, health and environmental catastrophes. Examples on these technologies are nuclear energy, the chemical industry and the biotechnology. “What is narrated to us or narrated for each other, turns to real drama when a technology, which are connected to big economical and strategically interest begin to arouse fear in a big part of the population which has to live concrete, social and economical together with it.” The quote above describes situations that resample in many ways the situation that we now are facing today concerning genetically modified organisms (GMO). There are a lot of different narratives in the society about benefits and risks concerning GMO. These narratives are competing in various ways in order to determine the agenda in the society. Eventually, a certain interpretation gains a certain narrative, which enables it to establish normative guidelines of how we should live with and use a specific technology. It is also true that GMO has a strong economical and strategically interest both for nations and multi-national companies. In Europe it can not be said that GMO are feared by the public even many are negative to the technology. In Europe we are neither living together with the GMO technology in a concrete, social and economical way, yet. But it will probably change in a near future. If gene technology face environmental and/or health catastrophes in the future, as has the technology of nuclear in Tjernobyl, 1986 and the

---


5 Ibid.

6 Ibid. My translation.

7 See the Eurobarometer 52.1 _The Europeans and Biotechnology_. 2000. Directorate-General for Education and Culture. European Commission, Brussels-Luxembourg. It is an opinion poll on Europeans attitudes to various problems connected to biotechnology.
technology of chemicals in Bhopal, 1984. Then there are chances that the public starts to fear the technology as the doubt and the uncertainty grows in society.

In the beginning of the new millennium the world has witness numerous accidents and catastrophes in connection with the high technology sector. These experiences have led to that the public today is well aware of the risks with these technologies. And these technologies can not be understood solely from a scientific or technological perspective. The technologies in question are getting their social and societal meaning by the mediating force of narratives. According to Kemp:

“The narrative is necessary for expressing the meaning of technologies for the society and the individual, whether we are considering technological accidents as the exception that confirm the rule about the technology that was met with misfortune but normally works well, or if we are concerned over the role that some technologies and some technology products plays on the whole.”

This sentence emphasizes that our practical relation to science and technologies are mediating through narratives. We are living in a world of competing narratives in which our understanding of the world is justified.

If we epistemological accept that the world is revealed to us through narratives or at least accept that narratives have a strong influence on how we understand the world then we should realize the political importance of narratives. Narratives are politics in terms of the actions or decisions that they can give support or will simplify that are in line with the prevailing narratives. Kemp argues that with the choice of narrative we are also decided what kind of meaning we want to give an incident. Embedded in that choice lays also the legitimacy of technology and the ethic-social justification of technological productions. Consequently, it is possibly to choose which ethical implications the narratives should have when we narrate. When narrating we decide on the one hand which ethical-social reality we want the experience to represent and on the other hand which actions or decisions that the narratives should give support for.

The content of these consequences arises from our identity and gives a specific meaning to it. These narratives “orientates our engagement” and our desire to hold on to a specific ideology, a specific conception of the society and of what it is to be human. In other words, the narrative is mediating a specific ethic. Along this line of argument we can reach a better understanding of the role of the narratives as a power of transformation. Because of this

---

8 For an excellent example on the role of the narrative language for the understanding of the technological risks see Kemp, 1991.
11 Ibid. p. 81.
transformative power, it plays an important role for environment politics and the politicians, who on a daily basis encounter environmental questions in relation to technologies that will have a crucial effect on society and our daily lives.

**Purpose of the Study**

From the arguments above, the contemporary politics need to adjust in order to be able to meet the demands of the late-modern society and the changed condition that follows from an accelerating complexity.

The main purpose of the study is therefor to examine an alternative possibility for formulating and assessing environmental politics in general and the politics of biotechnology in specific. This is done by a narrative approach which purpose is to identify and analyze how different attitude affects political standpoints concerning biotechnology and GMO.

The narrative approach can bring an understanding for how environmental politics and especially GMO politics are to be constructed for attaining a sustainable development in a society characterize by an increasing complexity.

**The Disposition of the Study**

The thesis is organized into three parts. After the introduction the thesis continues with ‘Interview Method and Theoretical Points of Departure’. Here my concerns are methodology reflection regarding the concept of truth in narrative approach and validity in interviews. I also provide the theoretical context for the discussion to follow.

In ‘The Narrative Construction of GMO Politics’ the empirical material is introduced. The empirical materials are based on qualitative interviews. These interviews are reconstructed as narratives.

This follows by ‘Comparative Analysis and Policy Implication’, which is separated into three parts. First the comparative analysis, which contents a comparison in different fields, concerning GMO politics. These fields were outlined in the empirical presentation. In the second part, I discuss general policy implications as a result from the narrative theory and which the effects could be for environmental politics in a late-modern society. In the third part, I summarize my results and suggest an alternative to environmental political practice, which I call a retrospective environmental policy process.
Interview Method and Theoretical Points of Departure

Interview Methodology

I carried out four semi-structured qualitative interviews at the Swedish Ministry of the Environment, the Swedish Environmental Protection Agency, the Swedish Ministry of Agriculture, Food and Fisheries, and the Swedish Board of Agriculture. These institutions where chosen because of their strong connection to Sweden’s GMO politics and legislation. The institutions have only one individual handle GMO issues, except the Swedish Ministry of Agriculture, Food and Fisheries. Here the choice was based on the respondent’s task to coordinate GMO issues. If the topic is GMO these institutions are the most proper to study. This is because, for the time being, the use of GMO in Sweden and Europe will foremost concern foodstuffs and crops. These topics are the Swedish Ministry of Agriculture, Food and Fisheries, and the Swedish Board of Agriculture concern. There is also a public anxiety if these products are safe for humans to consume and which effects they can have to the environment. The environmental aspects of these products are a concern for the other two institutions, the Swedish Ministry of the Environment and the Swedish Environmental Protection Agency. The interview manual consisted of 34 questions divided into different categories. These categories were corporate aspects, risk aspects, the public, ethical questions, marking GMO products and, the relation to USA and WTO. These categories could be argued to be the dominating narratives related to the institutions. To be able to listen to the different narratives in these categories in one session, a steering of the interviews is necessary. This steering is done through these 34 questions. The narrative approach in the interview makes the respondents to alternate between these different categories. The respondent often started to answer a question and then, when narrating, move over to other categories. It is important that one not cut off such action but instead ‘follow’ the respondent and asks question that can be picked up where the respondent ends. Through a relational network of questions creates a story-line, which contributes to the understanding of the different categories. In my presentation of these narratives I have reconstructed them in the above mentioned categories. This reconstructing is my own subjective interpretation of these narratives which brings to the fore the question of truth and validity, which we will continue to discuss below.

12 I am aware of that the purpose with this study is quite overarching. To really fulfill it, the institutions should be related to a political, scientifically and social context and the interviews extended to include scientist, politicians from different parties and civilians. Unfortunately there is no possibility for this here. But for a discussion concerning the public understanding of biotechnology and GMO in relation to science and the political system see Johansson, Anders (2001). The Differentiated Society: Luhmann, the Public Sphere and Biotechnology. C-Paper. Environmental Science Programme. Linköpings Universitet. Sweden.

13 WTO = World Trade Organization
The Transformative Power of Narratives

Truth and validity

During interviews there is always the question concerning validity. Therefore it would be worth mentioning something about how the conception of truth is to be understood and defined according to the narrative approach. “Claims for the efficacy and appropriateness of a narrative method for studying experience and meaning in context have been subject to the basic problems of any other hermeneutic method.”15 Because of the close relationship between the narrative approach and hermeneutic methods they share the same conceptions about the concept of truth. The concept of truth in narrative and hermeneutic theory does not share the conventional view. It is not truth as a correspondence or truth as an application but truth as meaning, that are “revealing a deeper meaning than the immediately evident.”16 This understanding of the truth is different from the pragmatic one, which forms on an application or fruitfulness. It differs from the concept of correspondence by referring to the contents of meaning where the correspondence is pointing at external phenomenon.17 In other word, the question is not “what this correspond to?” nor “how can it be used?” but “what does it mean?”18 With this in mind, what validity can we require from the interpretations of the interviews? According to Alvesson and Sköldberg, this question is erroneous.19 Rather, truth in the hermeneutic tradition is synonymous with an unveiling of substantially but previous unknown relations underneath a text.20 My interviews can of course be seen as a text. To reveal this unveiling of substantially, but previous unknown relations, there are four aspects to consider.21 These are (1), the interpretation pattern. This is the theory I have used for this thesis and it should bring a more profound understanding of the interviews. (2), The texts, which is the interviews in this thesis. (3), Dialog, which is the narrative construction of the text. (4), The context, which is the historical and cultural context of the interviews.22

17 Alvesson and Sköldberg, 1998, p. 36.
19 Ibid. p 167.
20 Ibid.
21 Ibid p. 170-172.
The Transformative Power of Narratives

interviews. (4), Finally, the interpretation of the texts, which is the comparative analysis of the interviews in this thesis.

If the discussion about truth and validity is more philosophical reflections I will now shift focus to the more practical issues of the interview method and advantage of the narrative approach.

The narrative approach in interviews

The interviews, which account for the empirical material in this study, are based on a semi-structured interview approach. Semi-structured interviews are designed with a number of questions that is prepared in advance. In my case I departed from 34 questions. These questions has to be designed to be sufficiently open for subsequent questions which most of the time must be improvised. This makes semi-structured interviews more difficult than fully structured interviews. “Improvisation requires more training and more mental preparation before each interview than simply delivering lines prepared and rote-learned in advance.”

To be successful they require, compared to fully structured interviews:

- “as much preparation before the session, probably, and certainly
- more discipline and more creativity in the session, and certainly
- more time for analysis and interpretation after the session.”

Considering this and given an equivalent amount of time and money you can do fewer semi-structured interviews than you can do fully structured interviews. But on the other hand they might give so much more than fully structured ones can. To summarize, semi-structured interviews are “high-preparation, high-risk, high-gain, and high-analysis operations.”

So why bother with narrative studies at all, considering the time spent on analysis and interpretation of narratives and the difficult and complicated theory. The probable answer to this is that the narrative approach can reveal something that is not possible to reveal in other ways. Narratives have a central place in people’s lives. Narrative is “the primary form by which human experience is made meaningful.” What is important for my study in the GMO political context is that “thinking, perceptions, imagination and moral decision-making are based on narrative structure.”

---

23 Ibid.
24 Ibid.
25 Ibid.
The Transformative Power of Narratives

by narratives of the self.\textsuperscript{28} Additionally, three more important arguments can be found in the literature, which speaks for a narrative approach. (1), the narrative is “\textit{precisely by what it assumes and therefore does not focus upon}.”\textsuperscript{29} This means that the narrative conveys tacit and unconscious assumptions and norms of the individual. (2), Another key argument that justifies narrative research is that “many of the assumptions and purposes, feelings and knowledge, that have organized and organize a person’s or a society’s life are difficult to access directly.”\textsuperscript{30} (3), Narrative researchers argue that narratives are valuable in social and psychological questions “\textit{because they present to the researcher embedded and tacit assumptions, meanings, reasoning and patterns of action and inaction}.”\textsuperscript{31}

After these reflections on interview methodology I now present the narrative theory that are central to my thesis.

\textbf{Theoretical Point of Departure}

The study of narratives does not fit within a single scholarly field. It is an interdisciplinary method for gaining understanding in social life. As a result of the “interpretative turn” in the social science a group of leading scholars from “…various disciplines are turning to narrative as the organizing principles for human action.”\textsuperscript{32} Paul Ricoeur (born 1913 in Valence) is one of the scholars that have developed narrative theory.

\textbf{Paul Ricoeur and the Narrative Approach}

Ricoeur’s writings are voluminous. He’s work began with phenomenological studies with influence from Edmund Husserl (1859 – 1938). Ricoeur’s writings are characterized by his dialog with other philosopher. Examples from the history of philosophy are Aristotle, Augustine, Kant, Hegel, Husserl and Heidegger. More modern philosopher is G. H. Von Wright, Miss. G. E. M. Anscombe, H. –G. Gadamer and Jürgen Habermas. The themes that Ricoeur cover also have an enormous breadth with topics such as psychoanalyze, comparative literature, linguistics, history, rhetoric, aesthetics and phenomenology of religion.\textsuperscript{33} This thesis theory departs mainly from Paul Ricoeur more recently works, ‘\textit{Time and Narrative}’ and ‘\textit{Another as Oneself}’.

\textsuperscript{29} Wengraf, Tom 2001, p. 115. Emphasize in original.
\textsuperscript{30} Ibid. p. 116. Emphasize in original.
\textsuperscript{31} ibid. p. 116. Emphasize in original.
\textsuperscript{32} Rieussman 1993, p. 1.
For Ricoeur, narrative are more than a mode of explanation, more than a code, and much more than a vehicle for conveying information. It is not a discursive strategy or tactic that the historian may or may not use, according to some pragmatic aim or purpose. A narrative, for Ricoeur, “is neither an icon of the events of which it speaks, an explanation of those events, nor a rhetorical refashioning of ‘facts’ for a specifically persuasive effect. It is a symbol *mediating* between different universe of meaning, by ‘configuring’ the dialectic of their relationship in an image.” This image is nothing other than the narrative itself.

Because nature does not tell narratives, individuals do, which means that narratives are representations and must be interpret. Here I will outline three important issues concerning narratives. These are the narrative identity, the mediation in narratives and the narrative competence. In the following, I will only introduce these narrative conceptions and return to them in the discussion, see ‘Identity, mediation and transformation in politics’.

**Identity and Narratives**

It is among other things through narratives that people define themselves and establish their identities. At the same time, this involves recognizing the identities of the social forms of which one is part. “Establishing one’s identity is inseparable from recognizing the identities of other people, of communities, societies, institutions, classes and social, political and religious movements.” What this quote emphasize is that it is through narratives that relationships between such diverse identities are established, defined, stabilized, and redefined.

Narratives enable people to envisage in a practical way, the different range of new possibilities, new identities, new goals, new communities, new ways of living and the paths to realizing such possibilities. Narratives create new social and political movements, and they are necessary for the coherence and continued success of such movement. The narrative identity will be further discussed later.

**The Inherent Character of Mediation in Narratives**

As Ricoeur points out in *Oneself as Another*, narrative theory finds one of its major justifications in the role it plays as a middle ground between the descriptive viewpoint on

---

34 The discussion concerning the relation between discourse and narrative are important but are not the purpose with this thesis. See Jørgensen, Marianne Winther and Phillips, Louise (1999) *Diskursanalyse som teori og metode*. Roskilde Universitetsforlag. Roskilde.


38 See Arran Gares, 2001, for the importance of narratives in history.
action and the prescriptive viewpoint. 39 Ricoeur is arguing that it is the narrative as such which constitute the mediation, which can bridge the gap between the description of actions, as in analytical philosophy, and the prescription of actions, as in philosophy of morale. The gap between the “is” in action theory and the “ought” in ethical theory has resulted in that the practical philosophy has been divided in two camps without connections with each other. 40 The narratives are here offering a mediating that does not reduce moral and action to each other but instead mutual relates them to each other and points out their complex connections.

This mediation between description and prescription will we see examples of in the interviews. It is a mediating between their professional role, the description or the “is”, and the opinions of the subject, the prescription or the “ought”.

Narrative Competence

Ricoeur emphasizes the necessary “narrative competence” which are constituted by a compound of four different parts or aspects. The first is an “ability to create narrative sentence” 41. Ricoeur defines these narrative sentences as “they refer to at least two time-separated events though they only describe (are only about) the earliest event to which they refer.” 42 In other words, a narrative sentence is a way of describing human action by configure two events in time and then presenting them in a certain context. An important thing to remember, especially in the political context, is that narrative sentences have the ability to a “retroactive re-alignment of the Past.” 43 This means that a narrative sentence has a purpose, it does not exist on its own, and it exists and is given meaning and purpose only through the narrator. In this way narrative sentences are differentiated from historical discourses and the hermeneutics approach. Instead of trying to understand a discourse or “meeting” the text/history under a “horizon”, the narrative approach are “breaking” with the text/history by re-configuring it. According to Ricoeur, hermeneutics “is concerned with re-constructing the entire arc of operations by which practical experience provides itself with work, authors, and readers.” 44 Accordingly, the main difference in hermeneutic and narrative theory is that hermeneutics reconstruct a meaning and narratives reconfiguring it.

The second part in the narrative competence is the ability to give these “narrative sentences an directness when they are united in a text.” 45 This makes the text something more then just the sum of these sentences. I said earlier that when narrating we decide on the one hand which

41 Ibid., p. 423.
44 Ricoeur, 1984, p. 53.
The Transformative Power of Narratives

ethical-social reality we want the experience to represent and on the other hand which actions or decisions that the narratives should give support for. This action is to give directness to a text. By this action we are also, as Kemp said, giving legitimacy of technologies and making ethic-social justification of technological productions.

This directness is a result of putting the two events in the narrative sentence in a connection with each other. It fills the gap between “the narrative sentence and the narrative text.”46 But even if the narrative sentence has the prospect of realignment historical discourses for the agent’s own intention and reason so must the conclusion be acceptable. 47 Standing on the shoulder of the narrative conclusion one must be able to follow and, intellectually accept that these events and these actions led to a specific end. With these comments on narrative theory it is intelligible how narratives can be incorporate into politics and taken advantage of. That they can give support or will simplify actions or decisions that are in line with the prevailing narratives.

This leads us to the third part in narrative competence. “The narrative competence is about the ability to create a context, by configuration put different factors as occurrences and people in a relation to each other.”48 This creating of a context is done for the aim of constructing a “comprehension”. This is done through that “the configurational mode puts its elements into a single, concrete complex of relation.”49 A political action must be comprehensible in order to reach understanding by the electorate. To reach this understanding is the purpose of the narrative.

Fourth and finally it must “contribute to an explanation of the historical course through a certain style or genre which produces a plot.”50 This plot is bringing the narrative sentences into a relational network creating a story-line.51 The style or genre could in political terms be an ideology, where the story-line must contain to. Today it could be argue that ideology does not play the same crucial role in politics as it has done historically. Instead the genre could be thought of as something concerning values that implicit are referencing to the story-line. It could for example be genus, ethic or environmental reasons.52

46 Ricoeur 1984, p. 149 Emphasis in original. Ricoeur is discussing the “followability” of a narrative in a dialog with W.B. Gallie’s work, Philosophy and the Historical Understanding.
47 Ibid. p. 150.
48 Uggla.1999, p. 423
49 Ricoeur 1984, p. 159
50 Uggla.1999, p. 423.
52 I would like to emphasize that I am here concerning of the political implication of Ricoeur’s work. Ricoeur’s works is often discussed in theory of philosophy, literature and history and there is no room in this thesis for making justice of his work.
I will here reconstruct the different narratives from my interviews. Because of the nature in semi-structured qualitative interviews and in the narrative approach the focus in these narratives shifted. In this account of the interviews I start with the Swedish Environmental Protection Agency followed by the Swedish Ministry of Agriculture, Food and Fisheries then the Swedish Ministry of the Environment and last the Swedish Board of Agriculture.

**The Quest for Knowledge: the Narrative Structure of GMO Politics in the Swedish Environmental Protection Agency**

**Risk Aspects**

When talking about risks the respondent mentioned the importance of identifying which areas that we are ignorant and unaware of and therefor should be taken into consideration in the risk evaluation process. Also when talking about the risk evaluation there is a narrative mediating between the person and the profession in the answers. This shows especially when answering the question about what a risk evaluation ought to take in consideration. The respondent started out by giving an account of different aspects that has to be considered in the valuation and then later on, the respondent started to give more personal thoughts about it.

A reoccurring theme was that the respondents expressed ignorance regarding GMO and the environmental impacts. When I later in the interview returned to the new directive and asked if the precautionary principle ought to have been stronger in the new directive, the respondent didn’t find that necessary. Despite the earlier utterance about ignorance regarding GMO and the environmental impacts there were no need to have the precautionary principle in the directive. The reason that the respondent did not find the precautionary principle necessary was because that the directive 2001/18/EG is very restrictive. But this two utterances can also been used as an example of a conflict concerning the public servants, on one hand the objective duties against the public society and on the other hand as an autonomous and reflective person. The narrative is *mediating* between these two different universes of meaning by “configuring” the dialectic of their relationship in the narrative itself.

**The Public**

When talking about public concerns, the respondent was making clear that is was not the Environmental Protection Agency role to get involved with consumers freedom of choice or what they should think of GMO. The new directive can not live up to a freedom of choice concerning GMO products for consumers. It will need some kind of addition such as the new
proposal about tracing and marking. When it comes to the public mistrust in GMO products, the respondent reflected on the penetration in the daily life of GMO in foodstuff in combination with that there has been no benefit for the consumer of the GMO products that has been released on the market. But in time consumer’s will get more and more used to GMO and than it will be less controversial. To reach this, the respondent believes that it is more important to develop products that have an added value for the consumer than to inform about gene technology. It will not be so easy as just inform and make people more knowledgeable regarding gene technology and GMO to turn around this mistrust. When narrated about the public mistrust, the respondent expressed that opinion polls might not reflect the reality. In opinion polls people are negative to GMO but if there were GMO products in the shops, maybe people buy them anyway.

**Ethical Questions**

A common theme with the ethical issues was that the respondent considered it difficult. This was the opinion in three different areas: the ethical considerations in the Environmental Code, ethics in the new GMO directive, and the practical aspects of ethics in a GMO application. A problem was taking ethical consideration according to nature. The ethical considerations between harm and benefit are hard to determine in this case and would have been easier if it was animals that were considered. Also, the respondent returns to the theme that we can not know anything for sure and predicting different effects are inherent with great uncertainty. The respondent comprehend the demand on ethical consideration in the Environmental Code as to comparing between benefits and risks but also that a valuation of the public concern could be taking into consideration in specific cases. But when it concerns separating facts and values it is not the Environmental Protection Agency role to give attention to politics. Instead the institution should use a strictly scientifically base and not consider ethical aspects or political values. In the reflection of this, the respondent expressed that all values that needs to take into consideration, could be find in the new directive.

**About Marking GMO Products**

The person interviewed mentioned that the purpose of marking GMO products were more of a psychological reason than for environmental or health aspects. The respondent did not think that there were any reasons to mark GMO products from an environmental point of view. More important, the products should be marked in order to give the consumers choices.

When discussing tracing programs for GMO products it became obvious that there existed a conflict between facts and values. The respondent said that from the Environmental
Protection Agency view the tracing programs are useful tools but when taken in a more complex picture, with more expensive products, it become more complex. Interestingly, the argument for the tracing program was that if a health problem is discovered after the market release, there would always be the possibility of tracing the product and take it back. This to me seems like a contradiction on the reasons of marking GMO products. If we do not have to mark GMO products based on environmental or health reason, why do we in that case need a tracing program?

I do not think the Environmental Protection Agency wants a tracing program just to please the public opinion or that the respondent on purpose leaves contradictions in the answers. Instead the respondent is stepping in and out of two (or probably more) universe of meanings. One of them is filled with the subject’s own personal opinions and the other is the professional role at the Environmental Protection Agency. As I said before, the narrative is mediating between these two different universes of meaning by “configuring” the dialectic of their relationship in the narrative itself.

In the discussion about GMO marking the respondent has to face the problem of questions concerning facts and values. In the narrative there is a mediating between the descriptive viewpoint and the prescriptive viewpoint, between the “is” and the “ought”. This mediating is also noticeable in the respondent’s certainty in the questions. From the descriptive viewpoint the answers is often more confident and coincide with questions concerning the professional role at the Environmental Protection Agency. It is a fact that the Environmental Protection Agency wants tracing programs for GMO products, the “is”. But when asking the respondent to relate the tracing program to the more expensive GMO products, then, as a result the respondent needs to relate according to different values, the “ought”, before giving an answer.

The Relation to USA/WTO
The Environmental Protection Agency sphere of responsibility is on the national level so it was difficult for the respondent to relate and answer questions concerning the relation to WTO and USA. The respondent mentioned that the problems between WTO and USA relating to marking and tracing in GMO could be more easily overcome if the USA was little more cooperative. If they only could specify which GMO a cargo included and this was approved by EU it would be okay. The problem is that the USA has much more GMO approved products than EU. The result of a higher cooperation from USA, followed by the EU starting their decision-making process and the risk valuations, would be that more and more GMO product would be approved. This would be more profitable for the USA because they now would be able to increase the export of GMO to Europe.
The Transformative Power of Narratives

Brief Summary
A reoccurring theme in several of the categories was that the respondents expressed ignorance regarding GMO and the environmental impacts. The quest for knowledge and the importance of identify which areas that we are ignoring and unaware of has high priority for the person interviewed. The next interview that is being examined is the Swedish Ministry of Agriculture, Food and Fisheries.

Rationalism and Rationality: the Narrative Structure of GMO Politics in the Swedish Ministry of Agriculture, Food and Fisheries

Corporate Aspects
The effects of the restrictive legislation are that the companies will move out from Europe and that the industry will be outdistanced. The risk is that the companies move to places with a much less regulating GMO technology. To avoid GMO products to reach less regulated markets its better to lower the demands in the European legislation so that Europe can have control and supervision of the market. With the considerable proportions of the GMO application, only the companies with enormous resources have the resources to make them. The small will disappear and the big ones will get bigger.

It is also negative for the companies that the word “GMO” has been so loaded with subjective judgements. Gene and modification is something strange for the public. Of course the public say no when they are asked in public opinions polls if they would eat gene modified food. Instead they should ask them if they wants to eat food that has been less sprayed with insecticide, less diesel used in the production, less carbon dioxide and so on. Of course would consumer be more positive to this. The positive effects on the environment and the advantage with GMO should be more emphasized.

Risk Aspects
EU and USA have a very extensive risk valuation. All the GMO products are tested enormous, without any restraints. In fact all GMO products are being so enormously tested that it feels there it is so many obstructions so nobody have the strengths to produce all the documentation needed. And what is the safest? When you now exactly what things you includes in a gene or when you crossing a species with another species and it seems to be well. The traditional way has been done since times immemorial and plants have been crossing in all directions. But when man started to do it by themselves then people thinks that the risks are greater. This has never been proved. With gene technology you know what you are doing in comparison with traditional plant breeding. To my knowledge has it never at all
been proved that gene modification has any health hazard whatsoever. The real risks lies in that it will only be large-scale companies that can afford to develop GMO products.

The Public
To change the public’s attitude towards GMO is a long-run process. It must grow and it needs to be clearly proved that there is no risk for the environment. The respondent believes that today everybody agrees that there exist no health hazards with GMO food. As food, GMO is working as good as any other food. Instead the problem is art crossing from crops that has been given specific qualities that give them advantage against other crops. These genes modified crop will then spread and might disturb the biological diversity. But then again, will it matter? Do we need all species? Species has always been extinct and new has taking their place and so on. It seems that the so-called nature lovers do not understand this. They just want to preserve everything as it is today. But the nature has never looked the same and will not do so in the future, it will always change. It is people’s perception of nature and gene technology that is hard to change.

The development of gene technology is something that is expanding and it is important that we do not stop this development. Instead we should regulate it. In fact, the GMO technology is safer than regular plant breeding. In regular plant breeding you just cross something and see what the outcome gets, but with gene technology you take a gene from something and put in something else and all the time you know quite exactly what you are doing. The respondent thought that the public could regard this to be terrifying on its own, knowing that scientists have total control on the genome.

Ethical Questions
The respondent thought that the new directive has not failed to take into consideration the different values that exist in the society. There is room for everyone. When the Ministry of Agriculture, Food and Fisheries needs to make a decision on questions that includes values they use experts within different branches. But is not in their job to make the decisions. The ministers do that. The Ministry of Agriculture, Food and Fisheries are simply giving them all the facts that are needed. The respondent understands the ethical considerations in the new directive as a try to adjust to the opinion in the society. Ethics is more or less religion. So the concern for ethics in the new directive is a result to adjust to the public opinion.

About Marking GMO Products
According to the respondent, the foremost argument for marking GMO products is that you know what kind of farming that you supporting. The respondent means that the reason to
The Transformative Power of Narratives

mark GMO products is not a question about if it dangerous or not, but about the right to know what products you are buying and what kind of farming you want to support. But there must be some reasonableness in marking GMO products, especially when considering unintended interference. The respondent mentioned a scenario of a cargo with GMO soya that is being delivered. Next trip he delivers from a dealer that has GMO free soya. In the cargo there still might be some left from the old shipping. It is maybe not possible to remove the entire old GMO soya. For examples like this you need to have some exceptions.

Then you have the question of why marking GMO products at all? The respondent did not have a answer or an understanding on this and suggested that for himself it does not matter at all because he know how properly tested GMO products are. And from a nutritive point of view so is GMO products the same as ordinary products. Following this, the reasons to mark GMO is a philosophical discussion rather than a technical or a practical discussion.

The Relation to USA/WTO
EU and their attitude to the GMO questions have led to that the USA wants to take EU to the court. But they have realized that it would take so long time that there is no point in doing that. As this situation demonstrates, EU’s demands and restrictive legislation will lead to trouble with the WTO.

Brief Summary
I give this interview the theme rationalism and rationality based on the respondent’s belief in science and the rational logic. These opinions appeared in all the categories. The next interview that is being examined is the Swedish Ministry of the Environment.

Between Facts and Values: the Narrative Structure of GMO Politics in the Swedish Ministry of the Environment

Corporate Aspects
The respondent from the Ministry of the Environment was more positive to the new directive and the company aspects. In the new directive there have been some improvements for the industry due to a new deadline for when decisions must be made. It is important for the companies that they receive the new policies and legislation as quick as possible so they can adapt to it. The new directive gives them a legal protection that has not existed earlier. But the respondent also mentioned that as an entrepreneur you get into an awkward situation in the GMO debate.
When reflecting on the possibilities of companies moving out from Europe because of the restrictive legislation in Europe, the respondent did not think that would happen for at least the next ten years. This because of the fact that gene technology is intense on research. It demands high knowledge, high capacities and infrastructure. These factors can not be found everywhere. But in the next ten years we will see developed countries as India, China and the Tiger countries in Asia expanding their technology sector. Then it is imaginable that companies will move to these countries. The respondent mentioned that the application is very extensive and costly which will prevent smaller companies to get their products out on the market. But that is only one part of the problem. The respondent where also question the reasonableness in having the conventional food products at a more expensive price, which will be the result as they will be more difficult to find in the future.

The Public

There is a public anxiety in the society concerning GMO products. The issue is if the products are safe or not. This anxiety reflects in the popularly elected whichshall act along this. The reason to this can summarized in to three different causes. The first is that the suspiciousness against GMO food can be referred to the scandals within the food and agriculture industry such as the dioxins and BCE situations. The second is that the production of food has come so far away from the individual. We are today more of end consumer than ever before. The individual does not know today how food is produced and this contribute to the suspiciousness. For the third, consumers have realized that the food industry is an enterprise that has to be profitable. The respondent did not believe that the solution to this problem is education about gene technology but rather the understanding about how food produces in general. In relation to this, gene technology must been seen in its context and not as a unit on its own. It must been seen in relation to food production, environmental politics, economical, social and environment sustainability and to companies perspective.

When it comes to the anxiety over the limited free choice because of unmarked end products it is noticeable that the new directive is making progress. It makes room for a possibility to mark the end product. The demand in the new directive is that the GMO must be labeled in the first step of the distribution chain. The next step is to make this information follow through the chain up to the end consumer.

Ethical Questions

The respondent has some different opinions about ethics and the new directive compared to the other respondents. One prominent difference is that the respondent thought that in the new GMO directive ethics has not been given the significance it should have. The meaning of ethics seems to differ between the Northern Europe and the Southern Europe. For us in
Northern Europe is ethics a question of sustainability, its has more of a practical view. But in the Southern Europe ethics is much more connected to religion, something divine. This is the reason why it is so difficult to refuse GMO products on an ethical base and make it acceptable on a global scale.

The respondent’s understanding of ethical consideration of the Environment Code was that it concerns the responsibility of management. The responsibility of management means the responsibility to nature, nature’s sustainability, that we should hand over the earth to the next generation with the same possibilities for them to use the earth. We shall not exhaust or exploit in a way that does not make it possible for future generation to use natural resources and biological diversity. Following this, is the question of the right to change nature. The respondent mentioned that the ethical part is difficult mainly because there is no tangible example on what is ethical correct or erroneous. This is instead connected to norms and values in the society. Because the gene technology is a new domain and many aspects in the technology of gene modified organism is potential and something that can occur in the future it is therefor not possible to separate values from facts.

About Marking GMO Products
One should absolutely mark GMO products, irrespectively of the fact if it is entitled or not. This because of the expressed concern among the public and because consumers have the right to choose. The respondent is astonished that the companies are not marking their products, when they are saying that the technology is totally harmless, good and improving the environment. The debate will get worse and the suspiciousness is growing when companies and the USA are avoiding marking the products.

There is of course a risk the marking will be useless if everything is labeled. Merely the fact that the product is coming from the North America could suggest that it is GMO products. The corn and soya are the most gene-modified products in the food industry today. Those products are also ingredients for most of the commodity. Because large quantity of corn and soya are coming from the USA we would then label everything, as there is always a suspicion that the end product could contain GMO. Instead the respondent think the best ways to mark GMO products are when you know it contains GMO or when the probability is high. You would then have to find borders for this probability in relation to the technical possibilities to detect GMO. But we can never guarantee GMO free food but we should aim to establish a high certainty.

The Relation to USA/WTO
From a trade perspective you can say that EU is acting in a trade repulsively way towards USA by restricting trade. USA’s irritation with EU are growing and there is a possibility that
USA take EU to court as early as next year if we do not get a moratorium. The best way for USA to get market opportunities in EU would be to cooperate and give EU a possibility to get information simpler by marking their products.

The new directive could be argued that it is a measure to increasingly make trade more difficult with the demand on the programs for follow-up. So it is not an approach towards the WTO. But USA has been terribly insensible earlier and if they go to WTO and get through a constraint on exporting GMO to Europe, the respondent believe that it will kickback completely. One of the problems with WTO is that they had not needed to have a dialog with the world. But in Seattle it where proved that it is not possible to neglect the interest organizations, they have to listen to them.

Brief Summary
The respondent recognizes that facts and values are inseparable. Concerning ethical questions, the respondent mentioned our responsibility of management towards the nature. This is a different approach to ethical considerations than making a risk/benefit analyze. When related to responsibility there is an opening for considering different values that are more difficult then just consider risks and benefits. The next interview that is being examined is the Swedish Board of Agriculture.

Objectivity and Pragmatism: the Narrative Structure of GMO Politics in the Swedish Board of Agriculture

Corporate Aspects
There is a risk that GMO products will be more expensive than conventional products, which leads to that you can not compete under the same conditions. The respondent think that we will see a certain movement of companies but also that they will keep quite a lot of the resources in Europe to protect the future market here. The purpose of EU legislation is to attain an acceptance from the market. The European public opinion will eventually spread to USA and give the European companies an advantage in a highly competitive market.

Risk Aspects
The new directive has taken enough consideration to the environment. The problem when it comes to risk estimation of GMO in a comparison to EU and USA is that USA has a very small follow-up and surveillance of market released crops. This could be a problem since they would not detect negative effects in time.
The Public
The new directive will not achieve freedom of choice for the consumers. But maybe other futures directives will do that if they turn out the way that has been proposed. The respondent mentioned the EU regulation of genetically modified food and the EU regulation of tracing and marking. There is a large desire in the political system of EU to get these regulations in function according to the respondent. The regulation of tracing and marking will probably soon be finished but the regulation of genetically modified food are faced with some problems and will take time. However, the consumer’s health has been satisfactorily considered in the new directive.

The negative attitude towards GMO derives from that consumers today have a good financial situation and is prepared to pay extra for food that they know is salutary. The respondent also thought that the consumer understands GMO as an experiment with their food. The public’s apprehension to GMO is a difficult question and demands information and efforts in education about gene technology. When the public get a basic understanding for the technology then it might be possible to make a change in their attitudes. The respondent also thought that it is important that, the openness that Sweden has will be just as natural in the rest of EU.

Ethical Questions
When it comes to ethical values in the new directive there is no room for making a general evaluation of the technology. The directive assumes that the technology is accepted and that you can estimate in each specific cases what the risks are and the ethical obstacles. The respondent does not think that the general ethical question fit into in the directive. When it concerns the general ethical question of gene technology it should be discussed in a more general context. It should be compared with everything-else that humans have come up with.

Concerning the issue of separating values and facts, the Board of Agriculture is gathering information quite unbiased. Through this both facts and values will be captured to a certain extent. Mostly facts but also values. The ethical regulations in the Swedish legislation are related to environmental hazards and are related to the consideration between benefit and risk. The ethical legislation is for preventing obviously unethical use and irrespective of the fact that we have different values we would prevent that.

It is a bit thin with guidelines in the legislation about how to deal with ethical considerations. In the preparation work there is some but not much. It comes down to that an ethical issue is done by a risk/benefit valuation. The respondent expresses an understanding for not making the legislation clearer regarding ethics. It would have been very difficult to get it accepted by everyone and would have a limited durability. It seems however that the new directive has increased the possibility for an ethical consideration but the respondent does not think that is possible to argue for or against a product on just an ethical base.
About Marking GMO Products

The purpose with marking GMO products is that it should secure the consumer options but not any option. To know if something is GMO or not is really quite uninteresting when you do not know what GMO it contains. It would be more honest and genuine to mediate more information to the consumer than just saying that it contains GMO. The information to the consumer will be really useful first when they get information about what kind of GMO it contain, which the characteristic features are and a identify code. The respondent thought that the systems that are now under construction would soon be out-of-date.

We must accept a certain degree of uncertainty when it comes to the possibilities to control eventual interference by GMO. Sweden and EU must stand up to WTO when it comes to marking and tracing. It is an important question for Sweden and EU and these demands are the same as from other consumer organizations in other countries as well. It will be difficult, but EU must try to get WTO to accept this regulation.

Brief Summary

In the Board of Agriculture standpoint lies a role of objectivity, which appears in the interview. This was something that was a pervading characteristic and most apparent in questions concerning marking GMO products. There was also a more pragmatic standpoint in relation to ethics, the environment, and the public. Next part in the thesis is the comparative analysis between the interviews.
**Comparative Analysis and Policy Implications**

**Comparative Analysis**

**Corporate Aspects**
In general, the respondents thought that the new directive could have a negative impact on companies that are developing GMO products in Europe. Especially small companies that do not have the resources for evaluating-and risk assessments are worse affected. On one hand the Ministry of Agriculture, Food and Fisheries believes the effects would be that companies will move away from Europe, and on the other hand the Board of Agriculture and the Ministry of the Environment believes that most of them will stay. One underlying reason for this is of course that the respondents are influenced by their respective institutions. For example, the Ministry of Agriculture, Food and Fisheries purpose is to look after the economical interest and the agriculture development. The respondent mentioned that he thought that the reason for the companies moving away from Europe was that they would not be able to develop genetically modified products in Europe. To develop and the possibility to sell was important factors. On the contrary, the Ministry of the Environment recognizes that the directive will put pressure on companies, but did not believe that they would move away from Europe. They stay because of the companies’ need for high knowledge, high capacities and infrastructure.

**Risk Aspects**
Talking about risk aspects, the Ministry of Agriculture, Food and Fisheries and the Board of Agriculture share the same opinions. They recognize that there could be environmental problems if the GMO are not managed in a proper way but that the directive will manage it in a satisfactory way. They also think that the directive was satisfactory relating to the health aspects. The respondent from Ministry of Agriculture, Food and Fisheries argues that there has never been any proof for that GMO would pose a risk for the health. The respondent from Environmental Protection Agency emphasizes the lack of knowledge in this area.

**Ethical Questions**
The most interesting parts here were the answers on the ethical implications in the Environmental Code. The Ministry of Agriculture and the Environmental Protection Agency had a utilitarian understanding in the positivistic sense of the meaning of ethical implications. They both interpret ethical consideration as valuations between risks and benefits. The purpose with this valuation is to maximize the good consequence for as many as possible,
which is the basic principal for utilitarianism. These two respondents were also giving answers that could be interpreted, as they are quite sure of what are values and what are facts.

The respondent from Ministry of Agriculture, Food and Fisheries finds the ethical consideration as a political attempt to adjust to public opinion. This statement connected with the respondent declaring that ethics can been seen as a religion and is showing a specific standpoint on the cognitive and ontology function in ethical expressions. This ethical standpoint is called ethical emotionalism and declares that there exist no morally truth and it is impossible to state rational reasons for them. The ontology characterizes by that values are created as a result of the human consciousness. In other words, ethical emotionalism values have not an independent existence. Instead it is something that are made up in the subjects mind, they are expressions of liking and disliking. This is the reason why it is not possible to state rational reasons in ethical question at issue. According to these reflection on the metaethics it is understandable that the respondent express that the new GMO directive has not failed to take any consideration to different set of values that exist in society. For the respondent ethical reasons are something irrational, something that does not belongs or could be managed within the legislation.

The respondent from the Ministry of the Environment had a quite different view on the ethical consideration. The respondent was here talking about a responsibility of management related to sustainability. Compared with the other respondents, this view is stronger regarding our normative relation to nature, because nature is given a higher status concerning ethical consideration. At first the respondent seems to share the anthropocentric view from the rapport that the *World Commission on Environment and Development* presented in 1987, under the name *Our Common Future*, which has have a great impact on international debate on the environment as well as the environment legislation. The respondent declares that we should hand over the earth to the next generation with the same possibilities for them to use the earth. This suggestion is in line with the notion of sustainability development in *Our Common Future*. But another suggestion is even more interesting. That is when the respondent express that the right to change nature could be questionable. This opinion could be seen as an approach towards an ethics with a more bio-centric set of values. With the notion of bio-centric means here nothing more than that even nature and animals posses values. According to this view it is not only human’s wellbeing that has a value on its own but also other living creature’s happiness has it. Even plant’s wellbeing should be supported even if this would not

---


raise human wellbeing. The human being duty is that to respect the animal’s right even if this would not benefit herself.\textsuperscript{56}

Let’s summarize this discussion about ethical consideration. It is now understandable how difficult it must be to manage ethics in international legislation. Considering these four respondents that have so different opinions on ethics even when they share the same culture, and share probably the same values concerning universal laws such as democracy and human rights and so on. Even then, they had very different thoughts about ethics and ethical considerations. For example, The Ministry of Agriculture, Food and Fisheries did not think that the directive had failed to take in different values, whilst the Ministry of the Environment thought ethics should have a stronger appearance in the directive.

Their different opinions are also discernible in questions concerning how they think about facts and values. The respondent from the Ministry of Agriculture, Food and Fisheries said that they have “experts” that helping them to separate facts from values and the respondent from the Ministry of the Environment said that it is impossible to separate facts and values in a so new area as GMO. If these two respondents are opposite to each other regarding the ethical questions, then we can place the other two respondents somewhere in the middle. One can not help to wonder if it is the institutional role that has made this arrangement. What I mean is that if it is the Environmental Protection Agency and the Board of Agriculture roles as consulting institutions that placed them as an intermediary between the Ministry of Agriculture, Food and Fisheries and the Ministry of the Environment.

The Public

The respondents from the Ministry of Agriculture, Food and Fisheries ontological standpoint was that there exist no moral truth and that it is impossible to state rational reasons. This is particularly clear in the answers given to the questions about the public concern. For example, the opinion from the respondent that there exists no health hazards with GMO food, and so works as good as ordinary food. In this statement lies an inherent believes in science. In other words the statement suggest that science has not been able to prove that there is any health hazards due to GMO. Per definition arguments that state a mistrust in GMO food, despite the scientifically investigations, automatically must be irrational. There can not be any rational arguments behind the horizon of science. This interpretation also finds support in another statement from the respondent, that the issue is just people’s conceptions about GMO.

The other respondents state different causes to the mistrust among the public. The respondent from the Swedish Environmental Protection Agency mentioned that yet there has

not been any GMO food that has been to any use for the consumer. The respondent from the Board of Agriculture stated that people link GMO as an experiment with their food. And the respondent from the Ministry of the Environment pointed out that there is a public concern about if these products are safe or not.

The Relation to USA/WTO

All the respondents agree on that the new directive will cause more issues with the WTO. The demand on a following-up program on GMO could been seen as a trade barrier according to the respondents from the Ministry of the Environment. This respondent and the one from the Environmental Protection Agency stated that the USA should cooperate more and being more obliging against EU. Above all, it is the information part that should be improved.

About Marking GMO Products

When discussing marking GMO products the issue on hand was what kind of information that one wanted to transmit to the public. The respondent from the Ministry of Agriculture, Food and Fisheries state the question; why mark the products at all when the GMO technology is safer than ordinary plant breeding, which do not have to be mark. The respondent only saw marking useful for knowing which kind of agriculture you want to support. The respondents from the Board of Agriculture and the Ministry of the Environment pointed out that there is a clear interest from the public for labeling GMO products. The respondent from the Environmental Protection Agency agreed that there were no reasons from an environmental point of view to mark GMO products but instead they could find legitimacy from the fact that the public wants it. The respondent from the Board of Agriculture warns that the system that is now under construction could quick be out of date. According to the respondents it is not interesting to just know if a product contains GMO or not. Instead the consumers should receive more information concerning the characteristics of the genes in GMO.

Brief Summary

The interviews indicate in general more agreements in questions concerning descriptive questions and a more disagreement concerning prescriptive questions. In other words, these areas that are based on values in GMO issues has a greater disagreement among these respondents. This is most obvious when considering ethical issues. These differences have their origin in the respondent’s opinions concerning the relation between facts and values. I mentioned in the interview with the respondent from the Environmental Protection Agency that the narrative is mediating between the descriptive viewpoint and the prescriptive viewpoint. Related to this is the narrative mediating between different universes of meaning in the subject. These universes of meaning are of course very varied in the respondents. I will
develop this subject in ‘Identity, mediation and transformation in politics’. Beside the ethics, it is questions concerning the public that are strongly affect by the respondent’s attitude towards facts and values. I have now presented the interviews and the comparative analysis and will continue with a more general discussion concerning policy implication.

Policy Implications

In the first part of this analysis the different narratives from my respondents were compared. In this section I will outline a more general discussion concerning policy implications as a consequence of the narrative approach.

Identity, Mediation and Transformation in Politics

First I would like to discuss some theoretical parts concerning the narrative and what implications it has to politics. There are three different themes where I will start from, (1) the forming of identity through narratives, (2) the mediating character of narratives and (3) the narrative transformation of history.

(1). As I mentioned in ‘Identity and Narratives’, it is among other things through narratives that people define themselves and establish their identities. The identity is not something closed or statically but instead presupposes openness and change. “Identity is not something that belongs to the self but instead it is formed in and by communication with others.”57 This quote points to the underlying reason for the conflict concerning the public servants and the subject, which I have notice earlier in the presentation of the interviews. The idea that the identity do not belong to the self is due to its temporarily structure. However, narratives link the past with the future by giving a sense of continuity to an ever-changing story of the self.58 In politics and in institutions, such as the institutions in this study, the subject is being part of a broader project. In political projects it is necessary that the individual “move” towards a collective subject, that the reference move from “I” to “we”. To move towards a collective subject means that the individual must perform a perspective change. This makes it possible for the participator’s to situate themselves and the narratives in a shared project, and thereby contribute to the project.59 In order to participate in such projects we must internalize the narratives that these projects are based upon. As Alasdair MacIntyre points:

I can only answer the question ‘What am I to do?’ if I can answer the prior question ‘Of what stories do I find myself a part?’ We enter human society, that is, with one or more imputed

57 Uggla. 1999, p. 449.
59 See Gare, Arran 2001.
characters – roles into which we have been drafted – and we have to learn what they are in order to be able to understand how others respond to us and how our responses to them are apt to be construed.  

When MacIntyre ask ‘Of what stories do I find myself a part?’ he points to the question of what kind of narratives people have been socialized into? To answer this question and to be able to answer MacIntyre first question, what am I to do? it is necessary to realize that narratives constitute people’s lives. When people start to realize and recognize their lives as being constituted by narratives they are able to question these narratives. This involves, as Gare points out, “recognizing that any commitment to a particular identity, way of thinking or orientation, can only be provisional and should be open to further questioning in the future.” When people start to be conscious about the role of the narrative identity and the temporarily structure, which constituted institutions and traditions they can “consider alternatives and take an active part in reformulating both the narratives of their own lives and these broader narratives.” This brings an ethical dimension into the socializing process that is related to the lives people are living and to politics. As I mentioned earlier, the formulation of ethics in relation to modern technology leads at the end to the question of the foundation of ethics. Instead of ethics being mainly focused on determining action through quantitative abstract algorithms in risk/benefit calculations, ethics based on narratives will focus on “what is a good life and how to live it, and consider what motivates people to strive for a good life or to undermine it.” Ricoeur defines the “aiming of the ‘good life’ with and for others, in just institutions” as the “ethical intention.” This raise the questions on what are the virtues that is required to live a good life and how to sustain the social forms required for living a good life. The ‘good life’ must contain the physical conditions for maintain over time. Supporting ecosystem produces these physical conditions and therefor they must maintain over time. Following this, “a genuine virtue includes the goal of ensuring ecosystem sustainability.”

The respondent from the Ministry of the Environment expressed that we have a responsibility for nature related to the thought of sustainability. This responsibility for nature can be seen, as a virtue required for a good life. The practical effect on GMO politics would be shifting the focus from risk/benefit analyses in decision-making towards processes guided by the precautionary principle. This because that risk and benefit is based on science and in a political context. The understanding and the condition concerning science and politics change

61 Gare, 2001, p.10.  
62 Ibid.  
63 Ibid.  
64 Ricoeur, 1992, p.172.  
66 Ibid. p. 233.
over time. This makes them bad as superior causes in GMO decision-making process. The precautionary principle guided by the virtue of a responsibility for nature is more suited for it, as it will correspond to the conception of a good life and how to live it. The respondents from the Environmental Protection Agency and the Swedish Board of Agriculture mentioned risk/benefit analyses as way of making ethical consideration. The choice for risk/benefit analyses can depend on the consulting role these institutions have. Earlier I placed them as an intermediary in ethical questions between the Ministry of Agriculture, Food and Fisheries and the ministry of the Environment, see page 29. The advantage for using risk/benefit analyses for them can be that it is based on ‘hard’ facts. In the summary of the comparative analyses from the interviews I mentioned that is seem to be more agreements in questions concerning descriptive questions and more disagreement concerning prescriptive questions. A decision based on a risk/benefit analyze would then be easier to defend and a more pragmatically choice then the precautionary principle.

(2). The controversy between analytical philosophy and continental philosophy relating to describing or prescribing action, also known as the “explanation versus understanding” debate, are a central theme in the social sciences. It has it origins in how knowledge is produced in the society. How knowledge is produced according to nature is of course important for environmental politics in generally and specifically to GMO politics. As I pointed out in ‘The Inherent Character of Narratives’, narratives can offer mediating that does not reduce moral and action to each other but instead mutually relates them to each other and points out their complex connections. The narrative gives a specific relationship between “is” and “ought”. Narrating is mediating between these two different universes of meaning by “configuring” the dialectic of the relationship in the narrative itself. See the narrative construction of the interview with the Environmental Protection Agency. In the practice of a profession, as holding a public office, the daily work consists of different actions that separately does not merit the title. These actions have specific meaning and bring them into the structure of practice in to the professional life. In other words, actions are giving a meaning in the context of the profession. The profession, whether it is a seller in a company or someone that are managing GMO issues at a public office, are faced with that their organization are handing them prenarrative qualities. And as Ricoeur points out, “nothing is more propitious for narrative configuration than this play of double determination.” I have implied this double determination several times in my interviews. The relation between

69 For a more detailed analyze on this topic see Ricoeur’s Sixth study in Oneself as Another.
70 Ricoeur 1992, p. 158.
The Transformative Power of Narratives

describing, narrating and prescribing implying a “specific relation between the constitution of action and the constitution of the self.”71 This relation makes it possible for the respondents in the interview to relate to questions on a scale with different universes of meaning by “configuring” the dialectic of their relationship in the narrative itself. It also bridges the gap between “is” and “ought”.

(3). I mentioned in ‘Narrative competence’ that narratives have the possibility of realignment of the past. The narrator has the freedom to reconstruct history, transforming it and make it topical for the present. In this way the understanding of history is reconfigure through the narrative. The reconfiguration gives a different interpretation of how to understand the narrative history. This can clearly be seen in this thesis in all the different interview topics such as, ethical questions, corporate aspects, risk aspects, the public and so on. If we simplify, it is possible to say that my titles on the different interviews are example on how the respondents understand the historical GMO narrative. The quest for knowledge was the title for the Environmental Protection Agency, rationalism and rationality was the title for the Ministry of Agriculture, Food and Fisheries, between facts and values was the title for the Ministry of the Environment and objectivity and pragmatism was the title for the Board of Agriculture. Depending on which voices we choose to listen to, we are giving different interpretations of how to understand GMO matters.

The Contribution of Narratives in the Political Context

An understanding of how our lives are defined and how narratives establishes our identities together with how narratives appear in the society would bring sensitivity and reflexivity to the political context. By open up the politics for narratives could be a way to handle the new reflexivity in the late-modern society. Risks, the environment, and modernity demand a new form of reflexivity to deal with the complex relationship. Ulrich Beck developed the concept of reflexive modernity.72 The reflexive modernity evolves from ‘simple’ modernity and is the result of a continuance process of essential capitalist rationalization and industrialization. In the biotechnology context we can see a rapid development. The DNA sequencing are accelerating as well as the crop genomics research.73

73 The first time the entire genetic content of a living organism where deciphered was in 1995 and performed by a commercial genomics company. Today, whole-genome sequencing of microorganism is commonplace. For further reading see The Crucible II Group (2000:29). Volume 1. Policy options for genetic resources: People, Plants, and Patents revisited. International Plant Genetic Resources Institute, Rome. Driven by this increased efficiency in genomics technology and fierce competition among major agrobiotechnology firms, investments in crop genomics accelerated dramatically in 1998. Ibid. p. 34.
the growing public recognition of high technology hazards and risks and, secondly, the decline of parliamentary institutions, the individuation of politics, the decline of class, and the growing role of ‘subpolitics’. These principals have of course importance when reflecting on GMO politics. The jurisprudence of GMO must be able to deal with the increasing complexity in the late modern society. It must recognize the connection between science, risk, biotechnology, and the different dimension of use. These dimensions are production, distribution, and consumption. The conflicts that arise here must the jurisprudence mediate by applying “practical reason, wisdom and judgement to assure common action, good and right decision concerning the good life in opposition to the fragility, the fault and the possibility of tragedy.” Practical reason concerns the respect for the moral norm and the basic procedural rules in society. Wisdom and judgement is the ability to make ‘right’ decision in moral dilemmas where legal rules can be difficult to apply. Judgement is also a supplement to the other and is needed for the particularity of situations and the possible exceptions to the rules. Practical reason and wisdom are related to narrative identity because they, as narrative identity, contribute to the ideal of a good life and are related to social traditions. In the political community of genetic engineering the new problem that arise from the reflexive modernity and the rapid development in science bring new challenges for the legal system and situation of responsibility. This problem must be recognized especially by the political institutions as Ministry of Agriculture, Food and Fisheries and the Ministry of the Environment but of course also the more consulting institutions i.e. the Environmental Protection Agency and the Board of Agriculture. This political community consists not only of formal legislation. It is politics that is created through a large amount of actor’s. These are actors in the production sphere, the distribution sphere, and the consumption sphere as well as nation-states. Ethics, law and politics can not be separated in the politics of genetic engineering. These must instead mediate shared understanding, universal principles, collective experience, and democratic traditions.

New Approaches to Strategy Formation in GMO Politics

I mentioned in the ‘purpose of the study’ that this thesis examines an alternative possibility for formulating and assessing environmental politics in general and the politics of biotechnology in specific. How would we then obtain this alternative possibility where ethics, law and politics is not separated in environmental policy process but instead mediate shared

---


76 Ibid.
understanding, universal principles, collective experience, and democratic traditions? Let us make a brief summarize of the result in this thesis. Starting with the interviews, these narratives can not be said to be homogenous concerning GMO issues. Instead there are connections points in some issues and difference in other. In the summary of the comparative analysis I pointed out that it was more disagreement concerning prescriptive questions and that these differences have their origin in the respondent’s opinions concerning the relation between facts and values.

In ‘Identity, Mediation and Transformation in Politics’ there are three results that should be considered.

1. The precautionary principle guided by the virtue of a responsibility for nature is more suited for decision-making processes, as it will correspond to the conception of a good life and how to live it. The precautionary principle provides the basis for developing a more adequate method of decision-making and simultaneously for more elaborating of the environmental politics.

2. The narrative mediating between the descriptive viewpoint and the prescriptive viewpoint, as I have point out how it appears on the subject level in this thesis, creates new alliances between the humanities and the science. Interdisciplinary fields in research are now being seen as a necessary, especially in complex areas as environmental issues. As Gare argues, “the narrative construal of the world will not only be supported, but will be augmented by the advance of this new science, particularly by the development in the science of complexity.”

3. The narrative possibility of re-alignment the past results in that we are giving different interpretations of how to understand GMO matters, depending on which voices we choose to listen to.

Outgoing from these results I will suggest an alternative to currently prevailing patterns of environmental political thought and practice. I present this idea by starting from MacIntyre’s question ‘What am I to do?’ Following MacIntyre, this question could only be answered if we know the answer to the prior question ‘Of what stories do I find myself a part?’ But the question ‘What am I to do?’ could also be answered by formulating the prior question ‘Of which stories do I want to find myself part of?’ In the extension of this we could also ask, of what narratives do we want the society to be part in? The politics of the environment should depart from considering a desired condition in the future and then examine various paths to attain this goal. This retrospective environmental policy process would orient the action of environmental politics and enable involved actors to understand and reformulating these narratives. It would also include my three results above. (1), The retrospective environmental

77 Gare 2001, p. 15.
The Transformative Power of Narratives

policy process would include the precautionary principle as a necessary condition. (2), To examine various paths to the desired condition it is necessary with interdisciplinary research. And finally (3), it would correspond to the narrative structures in people's daily lives.

Retrospective policy processes are faced with difficult issues concerning political and economical order related to the unequal disparity of wealth and power. These complicated problems are issues for future research.

Conclusion

This thesis, as I indicated in the ‘introduction’, aims to respond to the need of adjust the contemporary politics for meeting the demands of the late-modern society and the changed condition that follows from an accelerating complexity.

The central objective for this study has been to contribute with a narrative understanding of Sweden’s GMO politics with the purpose of examine an alternative possibility for formulating and assessing the politics of biotechnology. This has been done by investigate Sweden’s politics of GMO through a narrative approach. I have reconstructed and carried out a comparative analyzes of these narratives. This was the first of two objectives with this thesis. The other objective was to relate the political practice with the contribution and insights of Paul Ricoeur as a point of departure. My effort has been to build upon his contribution of narrative philosophy and fruitful conceptual resources and to reach an understanding of the advantage of a narrative approach in politics. This advantage lies in that it can provide an understanding of the narrative aspects in our daily lives. This, as I said earlier, would bring sensitivity and reflexivity to the political context. With this sensitivity and reflexivity it hopefully can separate irresponsible politics from responsible politics. The narrative approach brings an understanding for that political thought and practice is not reducible to other forms of human action.

This study proposes a serious alternative to currently prevailing patterns of political thought and practice. It therefor contributes something of substance to the contemporary dialogue of politics.
The Transformative Power of Narratives

**Literature**


Gare, Arran. (2001). *Narratives And The Ethics And Politics Of Environmentalism.* Theory and Science: 2.1


