Promises and Threats - uses of 'the future' in Danish and British GM coverage

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Abstract

This paper presents a qualitative, comparative study of future narratives on GM crops in Denmark and England, for the period 2000-2012. The data shows that the narrated futures are shaped by post-Thatcherist issues of class and Neo-corporatist welfare ideology respectively. The study concludes that narrated futures are used to help legitimate or challenge a dominant political power. Future scenarios in science communication are use, not only for prediction or prognosis, but to *change* the future by impacting present behaviour. Also, the future cannot be used on a case by case basis in science communication efforts, since futures interact to generate dilemmas and possibly paralysis through lost opportunity costs. Finally, there are important barriers to international communication of science, which are located beyond mere grammatical or linguistic competency, but concern issues of culture and ideology.

Introduction

Questions such as "What will the world be like in 2040?" or "How will this breakthrough change the future?" are familiar to those who follow science in the news. There is a good reason why this is so: the technicalities of science are so intricate and inaccessible to journalists and publics alike that it is much easier to disseminate the meaning of the research through its future implications The reason for the popularity of narrating the future therefore lies in the fact that it may improve comprehension and strengthen interest. In this paper I will discuss how the future is used to present Genetically modified crops (GM) in Danish and British news.

Narratives about the future are not only predictions or prognoses, however, but also lead to change as they may impact both present and future behaviour. This is because the future shapes the meaning of the present and directs actions. Narrating the future is therefore also a kind of ideological thought (Eagleton 2007). The narratives about the future of GM therefore also depend on culture, political context, economical circumstance, and institutional frameworks. This adds to the complexity, which confronts journalists when addressing such themes.

The overall claim here is that if science communication of GM is to inform individual and communal decision-making and policy formation, it must be explicit about the assumptions used in constructing such narrated futures and consider the ideological implications. One implication of this is that the future cannot be approached on a case-by-case basis, but that science communication practitioners must consider the interaction of many future scenarios spanning from utopias to dystopias. I will show that while there are underlying patterns to the kinds of narrative present in both Danish and British GM debates, these also have important national characteristics, which appear as a result of the ideological context in the individual country. These cases points towards important barriers to communicating science internationally for smaller countries, with English as a second language.

Methodology

The database *InfoMedia* was used for studying Danish, national newspapers. *Lexis-Nexis* was used for the British coverage of GM and the future in *The Daily Telegraph, The Independent,* and *The Guardian*. While the search terms for LexisNexis were: GM & Future & Crops (n=49), the search terms for InfoMedia were the equivalent Danish terms: GMO & Fremtiden & Afgrøder (n= 51), For the purposes here the period 2000-2012 has been selected. The turn of the millennium constitutes a watershed in the inception of important EU regulations and directives for both countries. The proposal for amending existing Directives to make them sensitive to GM issues was thus made in 1999 (Official Journal of the Euopean Union, 1999). This makes 2000 a suitable earliest cut-off. Over and against this 2012 was the final full year without any GM approvals at the EU level.

A deductive approach was initially employed to generate coding categories that are in effect empty signifiers. These codes were then filled out by inductive components. This approach thus employed a strategy, which involved *three* cycles of coding to be effective and systematic (Lewins & Silver 2007, p. 87). When conceptualising the various possible futures in terms of first cycle deductive coding, I draw on Skrimshire et al.'s observation about the dialectical connection between utopian and apocalyptic/dystopian future scenarios (2010, p.23-24). To this was added a third category termed 'Dilemma', which concerned an inability to choose between utopia and apocalypse. This corresponds with Idhe's concept of 'antinomy' (Idhe 1999). Three categories for coding also function as the *tertium compartionis*.

Results

The British GM Debate: On the one hand there was a *utopian* extreme in the narrative spectrum, which stressed the environmental benefits of GM and potential savings for farmers who would then spare the countryside, climate, but also experience increased profits and yields:

> "Less contentious is that GM crops could allow farmers to cultivate crops with little or no tilling. Tilling is great for killing weeds, but the benefits of not tilling are huge: it saves huge amounts of energy and estimates suggest up to 45 billion tonnes of soil a year are lost globally to tilling by being blown away or lost to rainwater. The herbicides used with GM crops could allow farmers to destroy weeds without tilling." (The Guardian: GM-the truth).

Here the narrated future of GM technology merges seamlessly with cornucopian growth ideology and is presented as an efficient solution to a series of challenges such as climate change, energy crises, and Malthusian demographic growth. Ends and means are connected in a clear narrative schema, where GM plays an important part in establishing trust in the continued expansion of the current economic and political system.

However, we also find a negative or *dystopian,* almost violent rejection of GM by

publics. The future implications of GM were here narrated as catastrophic, whereby present reality becomes inherently dangerous, with important implications for action. Indeed, this narrative was taken up the *Take the Flour Back* movement,[1] which invaded experimental GM fields and pulled up crops.

> "…the greatest potential environmental danger - the escape of genes to create "superweeds" or contaminate neighbouring crops" (The Daily telegraph: The seeds of another GM row are sown)

In this future, GM would affect wildlife, the environment, and intensify class tensions. However, the mutually exclusive character of the positive and negative interpretations of GM futures allowed the possibility of a third position:

> "T[he] Government's science review of genetically modified crops yesterday ruled out blanket approval of GM technology, sounding a much more cautious note than expected and warning that "gaps in our knowledge and uncertainties will become more complex" in the future." (The Daily Telegraph: GM technology fails to win blanket approval).

This is not simply a positive or negative future, but an emphatic emphasis upon uncertainty and the undecided character of what is to come. In other words, the number of possible futures or interpretations of the future have multiplied violently and antinomically. More specifically, convergent and divergent inductive coding strategies revealed that the dilemma about the future is coupled with a social tension between elites and the general populace (Charmaz 2003). This narrative ideological tension is therefore '*vertical'* in the sense that it expresses a difference of interest between the wider population and the political and business elites.

[1] http://earthfirst.org.uk/actionreports/content/take-flour-back-mass-action-against-genetically-modified-wheat (Accessed 9th dec. 2013)

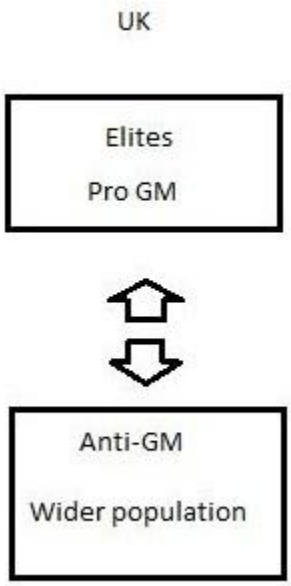

Figure 1

In other words, the uses of the future in regard to GM is very much articulated, framed, and organized by underlying post-Thacherist issues of class and ideology (Biressi & Nunn, 2013).

The Danish GM Debate: The agro-industrial sector is very important to the Danish economy and there is a substantial endorsement of GM crops at the industrial and political levels. In addition, many people are employed in the food industry. In this sense the narrated future of GM crops is very much one of collective financial gain, rather than environmental gain. The narrative of the future is thus one about the improved possibilities for consumers and industry in unison:

> "…cheaper, better, and healthier food, which covers market needs.... The food industry is of the opinion that the use of biotechnology in agro-industry and food production will benefit consumers…" (Berlingske: Mere GMO, tak! 28.04.2003)

There has been very little reason for Danes to worry about the pollution of pristine countryside, since there is very little of it. At best there has been worry about challenges to the economic feasibility of organic farming:

> "A clear 'no' to GM cultivation would result in a branding of Danish food production in important export markets and an alliance with consumers...There are therefore excellent economic and political arguments in a five to seven year moratorium from cultivating GM crops in Denmark." (GM-nej er et ja til vækst Jyllands-Posten | 01.10.2010

The most serious challenge to GM crops in Denmark has therefore been in the field of food safety, and that cross pollination could result in super weeds with catastrophic economic consequences, whether conventional or organic. The core narration of uncertainty about GM-futures scenarios is expressed mainly in terms different kinds of neo-corporatist consumer alliances with the elites.

> "…there are many opinions, while science and politics are combined in an opaque cocktail and the consumer is left with faith as the only guide…consumers must now choose to believe a group of researchers hired by an environmental group with a univocal political opposition to GM, or trust an EU system, where other concerns than openness and health are in play. It is therefore not unlikely that the Danish consumers have reason to look forward to a dilemma…" (Information 16.03.2007)

Rather than the class tensions, which are exhibited in the British antinomy about the future, political and industrial elites are in "an alliance with customers" in the Danish case. In fact this corresponds with the general assumptions of a generally neo-corporatist, welfare state in Denmark, which places an ideological premium on cross-class collaboration (Becker, 2014, 93-94; Wiarda, 1997, 74).). The antinomy about the future therefore takes on a *horizontal* character.

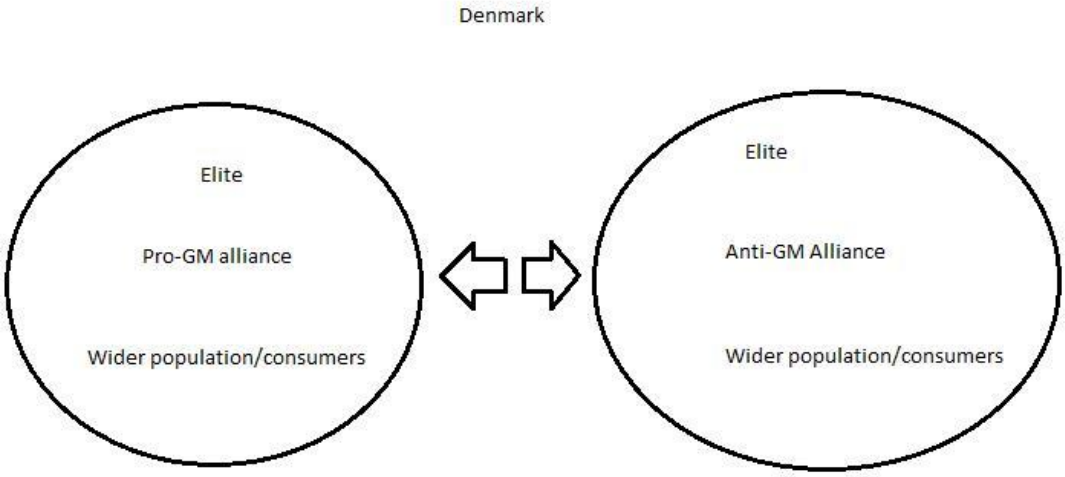

Figure 2

In spite of there being many agricultural research stations in Denmark, there have been no cases of social activism and vandalism as in the UK. Even in cases where Danish, left-wing youth have freed mink from their cages, it has widely been considered an isolated, radical, and extremist tactic, often termed 'militant', rather than representative of a wider social movement (Endnu en aktion fra militante dyreværnsvenner, Information | 13.07.2000).

Discussion

GMO futures and ideology: The data shows that narration concerning positive and negative views of the future for GMs, and even the expression of uncertainty about the future, are informed by concepts of ideal, social structure that are dependent on national context. This may be displayed in the following way:

	GM Utopia	GM Apocalypse/Dystopia	GM Dilemma
England: Class Ideology	• Energy conservation • Economic growth • Climate policy (reducing emissions through reduced tilling) • Corporate profits, • Avoiding starvation of masses (social misery)	• Environmental danger • Destruction of pristine countryside • Starvation (social catastrophe) • Round-up resistant weeds, • Social unrest among populace (activism) • Enserfment of farmers and consumers to corporations	• Paralysis • Gaps in scientific (elite) knowledge, • Social Uncertainty, • Complexity. • Paralysis. • Social dilemma between elites and populace • Crisis (uncertain future)
Denmark: Corporatist Ideology	• Better and more food (improved living standards) • Social cohesion through alliance with consumers • More individual choice in consumption • Corporate profits and jobs	• Dangers for industry • Destruction of cultivated areas (Biotech Chernobyl) • Unemployment • Disruption of social cohesion (fragmentation)	• Paralysis, • Consumer uncertainty • Individual dilemma concerning which social alliance is most beneficial • Crisis (uncertain future)

Figure 3

This points towards important barriers for smaller countries to internationalizing research in mass media. Danish is for instance a minrity language of only 5.6 million native speakers, with its own conventions and approaches. This makes internationalization of research very important and indeed an explicit political aim. However, efforts are hampered by communicative barriers, which reach beyond mere grammatical competency (Connor, 1999). In fact, extensive research has clearly shown that such barriers can seriously impact the credibility and effect of a second language user (Mauranen 2001, p. xiii). In this research, the foreign ideological landscape and its effect upon science communication may generate obstacles in employing future scenarios that may not be obvious to non-native speakers. Without sufficient awareness of national differences in ideological contestation, international science communication efforts may therefore fail. However, this may be a controversial interpretation of the data, since the concept of ideology has been out of fashion for quite a while, not only in science communication, but in academia in general (Eagleton, 2007: xx-xxii). While Gomel for instance recognizes the “cancerous explosion” of temporal imagination and narrative, she strangely rejects the presence of ideology and therefore also issues of utopia and dystopia. She claims that Postmodernity expresses an inability to imagine utopia, and that this inability has only intensified over the last three decades. (Gomel 2010, p. 147). Likewise, Postmodern approaches to science communication have thus, in general, been

deeply critical of the concept of ideology, wherefore it has almost dropped out of the conceptual landscape altogether. This is strange though, since the world of science, especially in Green GMs, is closely interwoven with business and political interests and social structure, where the future of farming and therefore food is closely connected with powerful, global corporations such as Monsanto and Cargill. These are very influential forces with enormous economic and political potential and huge interests in shaping and managing the perception of technology and future in society. As we can see in the two cases, there are utopian and dystopian perspectives at play in regard to GM, and that these uses of the future are inherently ideological in nature, playing on issues of class and social coherence.

Conclusion

This study finds that narrated futures are used to help legitimate or challenge a dominant political power. Science about GM, corporate, and political power go hand in hand as interests vie to affect the narratives about the future that help determine the actions people take in either supporting or rejecting a certain technology. An important future research question therefore again becomes how and to what extent science communication is a part of the ideology production apparatus of society? The second finding of this study is that the future cannot be used on a case by case basis in science communication efforts, since futures interact to generate dilemmas and possibly paralysis through lost opportunity costs. Paralysis is an inability to choose between the many ideological possibilities for science. In extension of this an important area of research will be a better understanding of how future scenarios in science communication are used, not so much for prediction or prognosis, but to *change* the future by impacting present behaviour. This would require a better understanding of the epistempology of time, future and action in science communication. The final finding of this study is that there are important barriers to international communication of science, which are located beyond mere grammatical or linguistic competency, but concern issues of culture and ideology. This suggests a need for problematizing the notion of multicultural practices in science communication as a univocal benefit in the field. Multiculturalism can also exclude.

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