Narratives of Climate Change and Environment
The facts and values portrayed in two Swedish newspapers' online editions

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Abstract

This study shows what the online editions of Sweden's two major daily newspapers put on the agenda with regards to climate change and environment. It also illustrates the ideas, values, ideologies and hegemonic ideas entailed within the presented articles' and news items' way of narrating. The result demonstrates how the readers are presented not merely with facts concerning climate change, but moreover with general sets of values holding that, for example, Chinese and Russian people are not entirely trustworthy, that Swedish authorities are utterly dependable and that the climate crises shall be solved by means of technology – not through a change in our way of living or through political economical measures.

Key words: Climate change, agenda setting, values, politics.

Introduction

During November-December 2009, Sweden's two major daily newspapers Dagens Nyheter (DN) and Svenska Dagbladet (SvD) published (in their online editions) various surveys on how people all over the world, among them the Swedes, relate to the issue of climate change (e.g. DN 09-11-14; 09-11-20; 09-12-07; SvD 09-12-15). The surveys were conducted by the Danish Board of Technology and Demoskop, a Swedish consulting company working with marketing and civic information. According to the surveys, 67% of Swedes were "very concerned about climate change and of the opinion that countries failing to fulfil their obligations as according to [a new] agreement should be penalized". Those said to be most worried about climate change were "the people of Mozambique, Bangladesh and Malawi, where 96-97% state being 'very concerned'". In Spain, 86% of the population believes that climate change pose a great threat to the world, in France the corresponding figure is 84%; in Greece and Cyprus "eight out of ten consider climate change a very big problem". In the U.S. "only 56% of the population believe that climate change constitute a large threat to the world", in Great Britain 56% and in Germany 55%. The Japanese and the Russians seem to be the ones least worried about climate change: "only 11% and 13% respectively, state being 'very concerned'".

That the people living in countries already subjected to climate change such as Bangladesh etc. also are the ones most concerned is not difficult to understand. More curious then is why so many of the people living in Sweden – a country hitherto not affected in the same way – consider climate change to be today's main global problem. The 2007 IPCC Climate Change Report and Al Gore's film "An Inconvenient Truth" 2006 are,

according to these newspapers, the reasons behind the growing worldwide concern for climate change; as for Sweden, it may be added that here the issue of climate change has not only been given extensive media-coverage, but has moreover been prioritized amongst Swedish politicians (SvD 09-12-15). All these four given reasons behind this concern for climate change, it may be noted, have to do with society's circulating discourses.

The aim of this study, the results of which are presented here, was to map out the articles and news items dealing with the issue of climate change and/or related themes, and to analyze and understand the significance these journalistic texts may have for the readers' perception of the subject.

Theoretical and methodological perspectives and considerations

According to Agenda Setting Theory there is a correspondence between, on the one hand, what the media writes about and how they choose to portray certain issues, and, on the other, what topics and perspectives the readers perceive as being relevant - this has been examined in numerous studies (see McCombs, 2004). Looking at the figures stated above, it seems as if this may also be the case with the correspondence between what the Swedish media writes about and what the Swedes considers to be important issues. Unlike Agenda Setting Theory - which uses a traditional quantitative content analysis as well as measurable and statistical correlations between different variables – I will rather focus upon the texts' qualitative characteristics when examining what may have caused so many Swedish readers to consider climate change to be a major threat.

Research has shown that we perceive threats which are imminent and geographically close as being more menacing than those temporally and spatially distant (e.g. Galtung & Ruge, 1965; Leiserowitz, 2007; Dunwoody, 2007). Given this - and seeing that the climate threat is not impending in Sweden today - the Swedes' concern for climate change and its causes make a particularly interesting point of study. Although this study focuses upon the newspapers' narratives and how these may affect people's perception of the threat of climate change, I would still like to mention two social factors which may have contributed to the Swedes' particular interest in climate issues. Firstly, contrary to less developed countries, Sweden is freed of the burden of having to resolve acute social problems and can therefore afford the luxury of considering the climate. Secondly, Sweden's old tradition of development assistance work (regardless of how we today may criticize its management) makes helping those less fortunate come natural to many Swedes.

The study includes all articles on climate change published in DN's and SvD's online editions during 2009, plus six others from 2007 appearing in - and linked to by - DN. The material was found through an internet search for the key concepts "climate change" and "environment science" ("klimatförändringar" och

"vetenskap miljö"). The hits were then reviewed and subsequently rid of all interviews, chats, blogs, short news items stating "someone saying something" or covering a politician going on a meeting somewhere, representations of protests, articles on art exhibitions and, finally, articles on "environment" as used in the context of psychology, psychiatry, home environment, etc. Since DN choose to publish all articles on the Copenhagen Climate Change Conference in December 2009 in a specific section, both newspapers were moreover searched through for texts containing the sentence "December Copenhagen Climate Change Conference" ("Klimatmötet i Köpenhamn december"): upon having eliminated brief telegrams, chats, interviews and articles published either long before or long after the days of the conference, what remained was approximately ten articles from each newspaper. This procedure yielded a total of 148 articles addressing the issues of climate change, environment and/or related themes. Out of these were 83 published in SvD and 65 in DN respectively.

The material was selected for the purpose of establishing what articles and news items the readers of 2009 - looking for information on climate change or simply browsing the newspapers - may have encountered. DN and SvD are Sweden's two major newspapers; the former considers itself to be liberal and the latter conservative, something which may become apparent in their different ways of approaching a theme. The specific articles and news items mentioned have been chosen for their way of exemplifying the study's different themes - as outlined in the sub-headings - and, moreover, for portraying a form of connotative function. The themes presented constitute the totality of the themes found in the material

Themes covered in 2009

Regardless of whether the articles were published in SvD or in DN, the following, recurring, non-exclusive themes can be discerned: the relationship between developed and developing countries (in which China is dealt with separately); consequences and measures of climate change; agricultural matters; climate change and nature; the climate change sceptics; politics and law, and, finally, public opinion (see abovementioned surveys). These are also the main themes of this study. There are also a few articles of a more general character which set out to explain basic phenomena such as temporary and long-term climate change (SvD 09-01-13); the relationship between greenhouse gases and global warming (DN 09-02-05), and solar activity's effect upon the climate (SvD 09-08-28). As for the articles dating back to 2007, these too belong to this category.

The DN articles from 2007 address the question of what would happen in the event of temperature increase of 1, 2, 3, 4, 5 and 6 degrees Celsius respectively. Using what is already happening today as a starting point, and moving from one geographical location to another, the articles account for what

consequences each increase in temperature may have. Hence the first article tells of how a one-degree increase - an increase already a fact in for example certain parts of Greece - has resulted in hundreds of thousands hectares of land being destroyed by fire as well as the death of both humans and livestock. To illustrate a two-degree increase, the second article looks to Peru's melting glaciers and to the millions of people living in the capital, Lima, threatened by major water-shortages**.** When accounting for the possible effects of a three-degree increase, Sweden is used as an imaginary backdrop. A senior lecturer of Environmental Medicine at a Swedish university looks to the Paris heat wave in 2003 during which 15 000 people died and estimates the Swedish summers to result in at least 1000 more; these deaths will primarily occur amongst the elderly and sick and amongst women whose bodily temperature regulation seems to deteriorate after menopause - as for the French women it also mattered that they were financially worse off and hence had poorer housing than men of their age. The article accounting for a four-degree temperature increase tells of deserts spreading out in Spain and of water reserves diminishing even more than they already have; the article telling of a five-degree increase – entitled "Protect us if the permafrost melts" – informs of how the permafrost contains approximately 1000 billion tons of carbon, a figure put into comparison with the approximately seven billion tons of carbon emitted annually as a result of fossil fuel use. If the permafrost starts melting, which could happen already at a two-degree increase, there is now way of halting the progress. In order to explain what a six-degree temperature increase may bring the final article tells of how, 251 million years ago, 90% of all marine species became extinct due to the emissions of carbon dioxide and methane released during gigantic volcanic eruptions.

The DN articles' message is clear: the more the temperature increases, the less we are able to control it; in the end, human civilization as we know it risk extermination. The threat of climate change is hence given an existential perspective: the disappearance of human civilization. Moreover, as a result of DN using Sweden as an example of a country which in the future will be subjected to a temperature increase, the threat appears to be more imminent.

The relationship between developed and developing countries

Whereas DN publishes articles on the relationship between developed and developing countries all throughout the year, the majority of the SvD articles on the subject appear during the second half of the year - in particular in November and December - as the Copenhagen Summit approaches. Although all examined articles seem to agree on the rich countries being accountable for the existing climate problems and on the developing countries being the ones suffering the most, the SvD articles make this point even clearer by posing questions of how much the developed countries are willing to contribute with, both in

terms of financial assistance and of technology transfer. The issue is however neither investigated nor discussed further. In an article published in DN, the African countries' demand for justice is being transformed into an issue of manipulation (DN 09-12-12); the article refers to the Danish newspaper Politiken which, in turns, is said to have studied the content of a draft memorandum submitted by the African countries. In this draft memorandum the African countries would supposedly have had required "an immediate $400 billion U.S. for use in the struggle against drought, floods and hurricanes [although] the UN has estimated this cost to amount to no more than $10 billion U.S. per year 2010-2012". The African countries have also allegedly demanded the 1990 emission levels to be reduced by "52% in 2017 and by 65% in 2020" despite the fact that "EU has set the goal at a 20% decrease by 2020". The fact that the Intergovernmental Panel on Climate Change (IPCC) has concluded that emissions need to be reduced by 50% in 2020 is not mentioned anywhere in the article.

Some of the articles on China's role appearing in DN are highly ideological. Here the country is accused of having a hidden agenda behind their demands for technology transfer (DN 09-01-07), and of increasing their emissions of fossil fuel "above estimated levels, hence overturning previous predictions" (DN 09-02-15). Moreover, China's domestic social tensions are said to potentially endanger the world around (DN 09-01-14) and it's declining economy to make the global financial-, environmental- and resource crises worse (DN 09-01-14). The following quotation is from DN, January 7 2009:

"Sweden has a certain amount of sympathy for [the developing] countries' criticism and for their demand for new regulations enabling them to profit by new technology. 'Certainly there are many countries which really do need help in order to get access to good environmental technology', says Fredrik von Malmborg, Swedish negotiator in Poznan. 'But there are also other developing countries, such as China, which has a broader aim with their demand for technology transfer. It may be for commercial reasons. Basically, it is about getting access to the technology they need to produce emission reducing equipment and to sell this on to the world market', Malmborg says and points out that China owns world leading companies and a large production of plants for wind power as well as for storing solar energy."

In this passage China is being accused of wanting to make money on new technology; the country's interest is suggested to be financial rather than environmental. For evidence of this, the article refers to the Chinese production of wind power and solar energy. Something essentially positive (the production of wind power and solar energy) is transformed into something negative.

This article, like all the others on technology transfer in both DN and SvD, fails to discuss the conditions lay down by the rich countries for such a transfer, and what effects these may have - both ideologically and in terms of economic dependence - for the countries on the receiving end.

Korten (2001), Karlin (1997) and Perkins (2004) and others have shown the rich part of the world as for generations making money on various projects in developing countries. This is never discussed. It is not until a country such as China wants to do something similar that voices are being raised.

In a more nuanced, yet brief, article published in SvD (09-12-03) this complex set of problems is summarized by a journalist who writes:

"...the negotiations are somewhat problematic. In the case of the Domsjö factories [which have recently received a Government subsidy for converting waste products into biogas] the company Chemrec provides the technology – which, in the long run, they want to sell on to paper-mills throughout the world, including Brazil and Uruguay, where potential customers are to be found. [...] They want to sell it, not give it away for free. 'The developing countries argue that they should be given free access to patents and technology. Not least for historical reasons', says Michael Rantil (president of the Expert Group on Technology Transfer). The developed countries, however, believe that everything should be done according to market conditions and mainly within the private sector by means of for example export".

As for direct financial assistance, an article in DN states that "the developing countries will always ask to have direct access to the money, not having to go via multinational banks" (DN 09-08-18). The article does not, however, discuss the historical reasons behind such demands, or the negative consequences money distributed by multinational banks have had for many countries' economies (for further study of these themes see e.g. Karlin, 1997; Perkins, 2004; de Vylder, 2009).

An article published in SvD offers a somewhat different view of China (SvD 09-11-11). It distinguishes itself from those appearing in DN on the same subject, both for its content and for the fact that it is written, not by journalists, but by two scientists from the Stockholm Environment Institute (SEI). Moreover, whereas the DN articles are published in sections such as "International", "The Copenhagen Climate Change Conference", "National" and "Business", this SvD article appears in the "Comment"- section.

The article tells of how Barack Obama and China are both trying to transform the idea of climate measures as *cost* into an idea of climate measures as something which creates jobs and secures energy; a transformation which, the writers argue, is necessary if we are to move forward. The article describes how although U.S. and China unite in being today's major environmental culprits, the average American has nevertheless, for the past 100 years, released 20 times more greenhouse gases than the average Chinese person. The article does however also point out the fact that China's industrial growth is responsible for more than half of the carbon dioxide added to the atmosphere during the past twenty years, and that the Chinese regard their emission of carbon dioxide as a necessity as well as a right in their call for economic development. Whereas the articles published in DN more or less see only problems with China's growth and economic policy, this SvD article argues that the country has pursued an ambitious policy in order to

increase energy security and that this has had a significant positive impact on the climate. Such climate-smart growth could, according to this article, result in the carbon dioxide intensity decreasing by more than 25% in every five-year-period up until 2020.

Consequences and measures

The articles on the consequences of climate change address specific consequences for some developed and some developing countries respectively, as well as the general consequences for the planet as a whole.

The global, more general consequences looked at are partly purely physical, partly security-political. For example, SvD address the question of what a four degree Celsius increase in the earth's average temperature would mean for actual temperatures at specific geographic locations (SvD 09-10-23) and of the melting glaciers' general effect on sea levels (SvD 09-08-08; SvD 09-09-30) - here it mentions international research and observations showing ice and glaciers to be melting at a faster rate than previously estimated. For the purpose of balancing the statement concerning a rising sea level, some professors and senior lecturers from Swedish universities are interviewed and then quoted, in a few (disconnected) sentences, expressing themselves cautiously with regards to the international researchers' and observers' conclusions. The researchers' cautious mode of expression - characteristic of the scientific community in general (see Boykoff, 2007; Lemons, 1998) - is here being transformed into a form of an argument against the international researchers' conclusions of how melting glaciers could result in sea levels rising a certain amount of meters, or of how this melting is caused (solely) by the greenhouse effect.

Issues of security policy are raised in connection to possible future conflicts both between developed countries and between developed and developing ones. The melting of the Arctic ice opens up the possibility of increased shipping activity and of extended raw material extraction; two articles address security policy issues in connection to using this geographical area for economic purposes, looking at how this may result in international conflict. In the first article, SvD writes about Denmark's rearmament on the Arctic, and about how Canada and Russia will probably follow suit (SvD 09-07-15); the second article focuses upon Russia's role and the need "not to irritate the Russians" (DN 09-02-02). Security policy issues concerning possible conflicts between developed and developing countries are discussed in connection to climate refugees who, according to the International Organization for Migration, may amount to 200 million people in 2050 (SvD 09-06-10). The article uses words such as "climate refugee", "security risk", "security threat", "humanitarian crises" and "exodus", it also informs of how the issue has begun to be discussed at the UN General Assembly. Yet the consequences of such massive migration – for the migrants themselves

as well as for the countries compelled to receive them – are not discussed. Not here and nor in any of the other articles.

With the Copenhagen Climate Change Conference approaching, both SvD and DN visit affected villages in developing countries, reporting at grass-roots level. Here physical changes such as a warmer climate, drought, floods and a rising sea level, are connected to the social issues of human lives, the destruction of infrastructure and, in one case, the violent confrontations between sections of the population in search for cultivable ground (DN 09-11-29). The articles' narratives all follow the same pattern: individuals tell of how they have been affected by drought in Africa (DN 09-11-29) and by floods in Vietnam (SvD 09-12-06); public figures are interviewed (a representative of the World Wide Fund For Nature (WWF) in Tanzania and an executive at the Vietnamese Ministry of Environment) and, finally, there is an account of what these communities do, or wish to be doing, in order to protect themselves against drought and floods respectively.

The SvD and DN reports differ from one another in that whereas the former questions the developed countries' willingness to transfer economic resources in form of capital as well as technology for the purpose of curbing the greenhouse effect, the latter transforms the scientific way of expressing an issue by means of probabilities in order to highlight the possibility that we may not be certain of the effects of climate change. One journalist writes: "The question is: what is caused by climate change and what is caused by other human or natural factors?" Matters as complex as interactions, synergisms and feedback mechanisms between humans and nature are here transformed into simplified "either-or" arguments in which climate change is seen as something either caused by man's greenhouse gas emissions, or not.

With the World Meteorological Organization (WMO) as source reference, SvD compares the number of deaths due to climate related disasters between 1980 and 2005, with the financial losses during the same period (SvD 09-08-30). The results show the poor countries having lost one million human lives and $350 000 billion US; the corresponding figures for the rich countries are 72 000 and $565 billion respectively.

Those articles specifically addressing the consequences of climate change for developed countries, may be divided into three subdivisions according to the following themes: natural disaster as an effect of climate change; the price of climate change e.g. in terms of increased insurance premiums, and, finally, the construction of nuclear power.

As for natural disasters, two articles tell of floods in Istanbul (SvD 09-11-14) and forest fires in Australia (SvD 09-02-11) respectively. Although the latter's focus is upon the possibility of a pyromaniac, the article nevertheless uses the fires and their consequences to illustrate what may happen as a result of climate change; the article also tells of the Australian population accusing the authorities of not having warned them in good time. The floods in Istanbul are directly linked to climate change and here also the authorities

are being accused, this time for poor city planning which prevents water drainage and for having winked at non-regulated construction work.

The three articles on the price of climate change discuss several consequences that might affect Sweden directly: increased insurance premiums in areas at risk (DN 09-09-17); a potential disaster hitting parts of Stockholm and its archipelago in the case of floods threatening roads, agriculture and houses (DN 09-07-31), and, finally, the effect on water quality should Lake Mälaren's spring flood continue to be as small, or become even smaller (DN 09-06-28). The two latter articles both suggest possible solutions such as construction of enhanced locks and continuation - as well as improvement - of already existing biological purification. In contrast to the articles on natural disasters in Istanbul and Australia, these claim the Swedish authorities have "thought things through" beforehand. Although it is interesting to note that all the articles on the cost of climate change were found in DN and not in SvD, the material is nevertheless too sparse on which to base any general conclusions.

The articles on nuclear power discuss it both as a consequence of climate change and as a possible remedy. Alongside climate change, factors such as an uncertain future supply of fossil fuel, unstable oil prices, the Russian-Ukrainian gas dispute, and the non-occurrence of a recent nuclear disaster, are all considered to have promoted the construction of new reactors (e.g. DN 09-02-06); the pro-arguments hold that nuclear power produces a carbon-free (hence environmental friendly) form of energy and that it reduces dependence upon imported fossil fuel (e.g. SvD 09-07-24; SvD 09-09-29). On one occasion, statements allegedly made by Nicholas Stern - a well-known international economist and an authority on environmental issues – are used to argue for the development of nuclear power: "We need all the carbon-free energy we can get. Yet new nuclear power will not generate electricity until after 2020, and I hope that renewable forms of energy have seen a strong development by then". The article interprets this as saying "new nuclear power will be necessary in order to cope with the climate threat. 'For the present time being, we can not rule out any possibilities.'" (SvD 09-07-24)

Out of the articles' suggested measures of reducing emissions of greenhouse gases, the majority are technology based; this is irrespective of whether it is developed or developing countries that are being discussed. There are a few articles which address the need for better information, for improved policies and for increased political responsibility; others discuss making use of natures' ability to sequester carbon, or question emission rights trading as a possible measure. None of the examined articles, from any of the two newspapers, discuss political-economic issues and the effect these may have upon the environment (see e.g. Daly, 2007), issues of consumer society, or other general cultural issues of relevance for reducing greenhouse gas emissions.

Among the suggested technical solutions are advanced construction techniques designed to economize on warming up/cooling down of buildings (SvD 09-03-09; DN 09-02-28); new technology for producing energy and storing carbon (DN 09-07-23); IT as a means for disseminating information and thus decrease energy consumption (DN 09-09-14); nuclear power (SvD 09-07-24; SvD 09-09-29); the construction of electrical roads to replace high-speed rail as an even more environmental-friendly solution (SvD 09-07-24); improved purification treatments for water having been contaminated as a result of floods (SvD 09-06-12) and solar power driven cookers for the developing countries in order to reduce air contamination and emissions of carbon dioxide (DN SvD 09-01-22; SvD 09-10-19). One article in each newspaper addresses the connection between air contamination and climate change (DN 09-01-22; SvD 09-10-19). DN mentions possible technical solutions for improving air quality and SvD asserts that although it is important to look at the link between air contamination and climate change, a decrease in pollution can only offer a short-term relief - in order to cope with the climate threat we need to reduce our emissions of carbon dioxide. The DN article discusses the problem of people in India using firewood and cow dung for heating and states that two thirds of the total amount of carbon particles emitted in India come from forest clearing fires and ovens heated with firewood and dung whereas merely one third comes from fossil fuel such as coal, oil and petrol. Whether the journalist actually intends to make the problem out to be people using fire as opposed to the combustion of fossil fuel we can not know, we can only establish that such an interpretation of the article is fully possible. In the case of the reader not being familiar with the causes and consequences of climate change, he or she may well get the impression that poor countries are responsible for climate change and that the problems can be eased using simple technological solutions.

In addition to the aforementioned practical solutions, both DN and SvD publish lengthy reviews of a book which questions the Gaia Theory (see Lovelock, 2006) and instead advocate technology as the one and only solution (DN 09-07-12; SvD 09-09-13). The author of the book, as seemingly the writers of the articles (one journalist and one Doctor of Philosophy in Informatics) has embraced new ideas current within Complexity Theory, according to which life exists in a state of non-equilibrium (see Stoehrel, 2010). However, whereas Complexity Theory also asserts the necessity of being aware of what time scale we use when interpreting different phenomena, the three abovementioned authors all conclude that a state of non-equilibrium leads to death; the one solution offered is technology, the re-building of the biosphere. The idea of man versus nature is clear, as is the idea of technology as the ultimate solution. That technical innovation is in fact the cause behind the current global warming is not mentioned in these or any of the other articles.

Two articles published in SvD account for SIDA's starting point in terms of possible measures for climate change. The first article is written by a SvD journalist and published in the "National"-section (SvD 09-06-

01); the second, signed by the SIDA Sustainable Services section-leader, appears in the "Comment"-section (SvD 09-07-12). Out of all the analysed material, the latter article is the only one proposing measures inclusive of various societal levels. The article emphasizes the necessity of integrating the issue of water resources into the forthcoming Copenhagen Climate Change Conference; of a more fair distribution of economic resources; of technical knowledge to reach all; of working cross-boarders; of enabling the civilian population to participate in decision-making processes and thus improve the administration of resources and, finally, of diminishing corruption within water resource management in connection to development assistance.

Only two articles mention improvement of communication and information as a necessary measure in tackling the climate threat. The first – written by a SvD journalist and published in the "International"-section – highlights the problem of today's climate information being too fragmented and calls for a gathering of information from sources such as universities, the WMO and the United Nations Environment Programme (UNEP) (SvD 09-08-30). The second article is co-written by the secretary-general at European Environment Agency (EEA) and a professor at the SEI; it is published in DN's "Comment"-section (DN 09-07-23). The authors argue that one of the reasons for climate crises-solving policies being flawed is the ignorance amongst politicians. When the president of the European Commission states that (in order to not exceed the two-degree limit) the emissions of carbon dioxide need to have decreased by 50% in 2050, the article refers to the IPCC according to which a 50%-decrease is needed by 2020, and an 80-90%-decrease by 2050 and, in doing so, accuses the president of spreading erroneous information (DN 09-07-23).

Agriculture

DN and SvD publish around ten articles on agriculture. The most frequently occurring sub-theme is the issue of organic farming versus conventional farming (i.e. industrial farming); for instance, SvD publishes during summer 2009 a series of debate articles on the subject. As in the case with many other issues, DN is the one to first address it, SvD the one to develop it further.

Referring to "researchers" (without specifying a source) one article in DN argues that organic farming produce lower crop yield than conventional farming and how conducting it therefore is "morally reprehensible" considering that 800 million people in the world do not have enough food to eat (DN 09-04-11). There is no mention in the article of research indicating the opposite, i.e. that organic farming may produce a higher crop yield than conventional farming, and that organic farming has other comparatively more favourable consequences, both environmentally and socially speaking (see e.g. Northwest Area Foundation, 1994). The article also fails to mention how there are numerous reasons for people in poor

countries not having sufficient amounts of food to eat, reasons such as people simply not being able to afford it; large global organizations like the World Bank more or less forcing poor countries to export their produce; current trade policies being discriminating towards poor countries (Human Development Report, 2005) and, finally, foreign countries buying land in these poor parts of the world to use for their own cultivation (Brown, 2009). The article mentions how advocates of organic farming claim conventional farming requires large quantities of oil in its production, yet it fails to mention whether – and if so, how come – organic farming calls for less. It is left to the reader to guess the connection. Those readers who define organic farming as a form of agriculture in which chemical pesticides and artificial fertilizers are not being used may come to one conclusion, while those defining it as entailing the above *plus* a soil cultivation without tillage may come to another. The article also cites some researchers at the Swedish University of Agricultural Sciences (Sveriges Lantbruksuniversitet, SLU) claiming there are no studies indicating that pesticides used in Sweden would be harmful to humans. The burden of proof is thus put on those possibly subjected to any such harm and not on those producing and selling the pesticide products. The article also includes an interview with a female researcher from The Centre for Sustainable Agriculture (CUL). Had this researcher been asked about aforementioned issues her answers could have formed some kind of balance to the allegations, yet now she is only quoted speaking about the problems of future supplies of phosphorous, oil, coal and natural gas. Again, the reader is left in a limbo. Referring to the Swedish Consumer Agency and to the Swedish National Food Administration (yet again without specifying any source documentation) the authors claim that there is no proof of organic products being better or more nutritious than conventionally grown ones, and that the amount of pesticides to be found on conventionally farmed products are not sufficient to base any conclusions upon. The writer of this article ends with an implicit criticism of both present and previous governments: “despite the thus far incomplete scientific evidence, involved authorities and government alike are all supporters of all things organic”. Here, as on other occasions, science is asked to come up with the impossible: 100% certainty,

This theme is carried forward into another article published in DN, entitled “High amounts of wooliness behind SIDA’s new agricultural development assistance”, co-written by a professor of Theoretical Ecology at SLU and the former director of SIDA’s Working Party on Agricultural Questions (DN 09-07-16). The authors express contempt for traditional agricultural knowledge, calling it “popular opinion” and states that, when deciding upon agricultural development assistance, SIDA seems to have been influenced by “popular opinion” rather than by “professional knowledge”, “science”, and “well-tried experience” (the latter merely defined as meaning scientific knowledge.) The authors accuse the advocates of organic farming of “not having done enough reading or having a non-scientific agenda”; they also make clear their disdain for civil society as represented by the NGOs, and for SIDA which is collaborating with them – again, the reason is a

presumed lack of scientific knowledge. The authors do not however mention that it was precisely such cooperation between researchers, local people and indigenous population – and these groups exchanging experiences and knowledge with one another – that made it possible for the Millennium Ecosystem Assessment (2005) to reach such great depths in their studies (see Bridging Scales and Knowledge Systems, 2005).

A few months later SvD addresses the same issue in an article written by a senior lecturer at SLU. He is critical of organic farming, especially that which is conducted in Africa, because "the fact that organic farming has been allocated a piece of the development assistance is preventing development and the eradication of poverty" (SvD 09-08-11). The senior lecturer admits to there being "other problems also hampering the development of African agriculture, for example issues of the right of use to land, ownership rights, and the developed countries' trade barriers". Yet, he asserts that a "modernisation of agriculture" – in this case the use of chemical pesticides and of artificial fertilizers – is necessary for Africa's development. Furthermore, he accuses the Western environmental movement of being "dogmatic".

This particular article generates a number of responses from other researchers (from both Sweden and Africa) as well as from senior lecturers, representatives of institutes advocating organic farming, the CEO of KRAV (the Swedish supervising organization for organic farming) and, indirectly, a few months later from SIDA. All appear in SvD, in the "Comment"-section (SvD 09-07-27; SvD 09-08-12; SvD 09-08-20, SvD 09-08-27; SvD 09-10-16). These researchers and representatives of organic farming state that, when it comes to Africa, there are a number of articles published in scientific journals, as well as reports from the UN Food and Agriculture Organization (FAO), establishing how a shift to organic farming results, not only in higher crop yields, but moreover in reduced energy consumption, a diminished use of pesticides, improved financial situations for the farmers, extended growing seasons and therefore less growing area needed, increased biological diversity, decreased water contamination, improved soils, a more diversified production, better access to the market and thus increased independence for the farmer. As for other geographical regions, the researchers moreover state that there are studies showing that, "a shift to organic farming in the countries surrounding the Baltic Sea would take the strain off the sea and the climate, and would benefit the biological diversity in the region," all the while economizing on the finite resources of "fossil fuel, fertile soils and mineral supplies, including the reducing stores of phosphorus". The SLU researchers are accused of "playing down the harmful effects of the current use of pesticides when rather the opposite should be done", and numerous examples are given of acute as well as chronic incidents of contamination as a result of chemical pesticides being used in developing countries (for further study of these themes see Velasquez, 2005; Rozas, 1995). The senior lecturer from SLU who argued that organic farming produces lower crop yields is accused of lacking scientific support for his claims and of being ignorant as of the

causes behind poverty in Africa – here explained as the African farmers being driven out of the market by the developed countries state-aided agriculture.

The series of debate articles concludes with a reply from the researcher whose article initially provoked the discussion. Again he accuses the advocates of organic farming of not conducting "serious analysis", of being "cynical", "irresponsible", "demagogical", "unscientific" and moreover, of manipulating figures.

The SIDA article appearing a few months later is not published as part of the debate on organic versus conventional farming, yet nevertheless too emphasizes the necessity of considering climate, environment and diversification of production when addressing the agricultural development in Africa. SIDA's director general argues that up until 2008, the world's leaders and main development assistance figures had all neglected agriculture as an important part of economic development; today it is essential that we prioritise farming as a means of ensuring food supplies, generating employment and income, and fostering economic development. On policy level, the director general believes that trade should be made more efficient and that development assistance should go directly to the farmers' associations and to the private sector; not just, as before, to the Ministry of Agriculture. However, he does not explain *how* trade is to be made more sufficient, nor does he mention the trade barriers implemented by the developed countries (see Human Development Report, 2005).

All the while this debate is running in SvD, DN publishes an article based on an interview with a professor, also the managing director of SEI, looking at the advantages and disadvantages of soil cultivation without tillage (DN 09-06-14). As for the advantages the article enumerates positive consequences such as soil which has not been exposed to sunlight, wind and water will not be easily washed/blown away in the case of bad weather; possibly higher crop yields; an estimated 10% reduction of greenhouse gas emissions; a decrease in working hours for the farmers and, finally, a diminished consumption of diesel. As for the drawbacks, the article mentions the need to use pesticides, at least during a transitional period. Yet "rather pesticides for a transitional period than farming with intense tillage", says the professor, adding that he is aware of such an opinion to be objectionable to some people. The article tells of an agricultural company, Monsanto, producing not only a herbicide ("Round up") but also crops resistant to it, hence enabling farmers to spray the whole of their plantations with pesticides and yet not harm their crop. There is however no mention of why this would be questionable, neither of the controversy already surrounding Monsanto in terms of being involved in legal processes, nor of the products' social consequences for small-scale farmers around the world (for further study see Shiva, 1997; Shiva, 2005; Manzur, 2005). The article also fails to address the health issues connected to the use of chemical herbicides.

Two of the articles on agriculture focus upon policies purporting to assist poor countries (SvD 09-07-11) and upon EU's dairy farmers respectively (SvD 09-10-19). The first article states, already in the preamble,

that the G8 countries "and a number of other nations" (which ones are not specified) have promised $ 20 billion U.S. to increase food production in poor countries, and that the G8 countries intend to double their development assistance for 2010. The article asserts how the money is to be spent on new investments, increased irrigation and improved agricultural methods, yet says nothing about the conditions which apply. Neither is there any mention of this money not actually being "new" but instead collected from different countries' budgets for development assistance, nor that, as for example de Vylder points out, "the sum equals merely a few thousands of the amounts spent on bank support in the OECD countries" (de Vylder, 2005 p. 115). The article speaks of Africa yet fails to discuss the cause for the continent's food shortage; the closest it gets to addressing this issue - and then merely implicitly so – is when it assert that the G8 countries "promise to reduce trade barriers put up against the poor countries". To reduce them, that is, not to remove them. The Swedish Prime Minister is quoted describing Sweden's financial contribution as a "part of our already existing development assistance"; he also asserts that "Sweden belongs to a small, exclusive group of five countries whose development assistance actually amount to 1% of GDP". The fact that this 1 % covers debt cancellations, refugee expenditures, EU assistance and administrative expenses is not mentioned (see Prop. 2009/10: 1).

Nature

Each newspaper does on one occasion discuss nature from a philosophical point of view, this is when reviewing a book questioning the Gaia Theory (see above) and portrays the idea of man versus nature (DN 09-07-12; SvD 09-09-13). There are also articles looking at how environmental problems affect individual species and at what the scientific community and politicians do to understand and / or take care of these problems. There are however no articles directly addressing the question of how nature and biodiversity may affect the climate. The nearest we get to this is an article on Stockholm not reaching the environmental goals set out for the 2010, goals including that of protecting forest land and preventing loss of biodiversity (SvD 09-05-23). The article does not, however, discuss or explain why these goals are important; why, for example, the protection of forest land can have an affect on the climate.

The articles discussing how climate change affects nature, address the increased loss of biodiversity, mushrooms growing in December, and animals and plants forced to relocate. There are two articles on this latter subject, both written by DN journalists and based upon articles published in the scientific journals "PLoS ONE" and "Nature" respectively, as well as upon interviews with the president of the Swedish Ornithological Society (SOF) and some Swedish researchers (DN 09-03-15; DN 09-12-24). The first article accounts for a study of 122 European bird species according to which – given a three degree temperature

rise - “92 will get a narrower distribution as a result of climate change while merely 30 will benefit”. Using a Swedish bird, the flycatcher, as an example of the former, the article describes how warmer winters make insects come out earlier in the year which, for the flycatcher baby birds – always hatching at the same time – means that there is simply not enough food left for them to eat. The second article claims that the earth’s climatic zones are moving approximately 420 meters/year, i.e. at an unprecedented speed, and that in areas of flat and low lying land (e.g. desert-, coastal- and steppe areas) the zones may shift more than one kilometre per year, a pace which animals and plants cannot keep up with. At one point in the article, the journalist erroneously claims the movement of the climatic zones is “caused by the species not being able to find their way up on a mountain.”

The increased loss of biodiversity is discussed in connection with the declining penguin populations in Antarctica and southern Argentina (DN 09-01-27; DN 09-02-14) and in connection to fisheries (DN 09-02-13). The article on the penguins in Antarctica is based on a scientific study published in the scientific journal PNAS, looking at what the Antarctic ice melting may mean for the future of the Emperor Penguin which, the article tells us, is entirely dependent upon the ice, both as a place for breeding and for obtaining food. The colony living in the eastern part of Antarctica has already fallen sharply and is expected to have declined by over 90% by 2100. With regards to the penguins in southern Argentina, another article tells of a group of researchers from the University of Washington having found that the colony has decreased by 20% during the last 20 years; the reasons for this are assumed to be the depletion of fish, environmental degradation and climate change. For source reference, the article mentions the name of a researcher “participating in the AAAS”, yet does not explain what this is. Another article, discussing some of the results presented at a scientific conference in Chicago, explains the effects a warmer climate have upon fish: climate change, the article asserts, results in stratification in sea temperatures raising, in currents changing, and in acidity increasing due to higher levels of carbon dioxide – factors which all have an affect upon fish and shellfish resources (DN 09-02-13). By using a computer-based model, a team of researchers have concluded that the fish will be moving towards the poles, a state of affairs advantageous to countries such as Norway and disadvantageous to the developing countries in the tropic zone. According to these researchers, current fisheries policies fail to take into account the crucial element of climate change.

The articles addressing what the scientific community and politicians are doing in order to understand and / or take care of environmental problems look at specific cases involving birds, crayfish, fish and frogs respectively (SvD 09-07-13; DN 09-07-04; DN 09-08-08; DN 09-08-02; DN 09-05-17). Only one of the two articles on birds contains the words “climate change”; as for the other – just as for the articles on crayfish, fish and frog – it is left for the reader to make the connection between what is reported and climate

change. In order to do so, however, knowledge of the food chain, of synergy and of feedback mechanisms is required (e.g. Pounds et al, 2006; IPCC 2007; Khan et al. 2006).

One of the articles tells of scientists concluding a lack of vitamin B1 to be the cause of many birds having died around the Swedish coasts since 1982; through various researches it has been possible to eliminate the most common environmental toxins and now scientists are beginning to hypothesize on possible connections to climate change and to disturbances in the "biogeochemical cycles". The article does not explain what this is (SvD 09-07-13). As for the fish, one article tells of an ongoing project with ringed guillemots at Stora Karlsjön, investigating where the fish go and at what depths they swim; the weight of the fry moreover indicating any changes in the remaining number of sprats, something which, in turn, indicates the remaining numbers of cod (DN 09-07-04). By examining the fish egg-shells we can also learn something about environmental toxins. Another article on fish tells of how 5 out of 10 studied marine areas are now beginning to recover, yet that the situation remains severe: the total quantity of fish has diminished by 1/3 since industrial fishing began. That some of the studied areas have been able to recover is merely down to the fact that various authorities' have imposed zones in which fishing is forbidden as well as implementing restrictions on the number of fishing boats allowed, the minimum mesh size of the nets used, etc. The Baltic Sea and the North Sea, however, still have major problems. The article also mentions that the EU, Russia and South Korea increasingly conduct their fishing at the coast of Africa; how this may affect the African countries is, however, not discussed. As for the crayfish, another article tells of how scientists estimate the population to have decreased by 95% already in the 1980s as a result of the importation of signal crayfish and the pestilence this brought. The frog appears in an article discussing the preserving measures taken since its natural habitats, the ponds, were destroyed; this occurred in Sweden as a result of eutrophication, draining, grazing animals controlling vegetative growth disappearing, new roads being built through the landscape or the degrading of land through tillage. The importation of frog eggs from Denmark and the digging of new ponds have, however, had positive results; the population has begun to grow.

In addition to these specific case-studies, there are also a few articles discussing the issue of what the scientific community and politicians are doing in order to understand and / or take care of environmental problems on a more general level (SvD 09-11-05 and DN 09-02-08). Here, an international project is described in which Sweden is one of the participants, and where 10 000 animals' genomes are being charted and examined in order to establish how they have changed during the course of evolution; the results will indicate how different species respond to climate change, to disease, and to rivalry form other species – knowledge which could facilitate the work of protecting the species. One article – based on a text published in "Nature" – sets out to make a connection between the discovery of a fossil of a giant boa

constrictor living 58 million years ago in what is now Colombia, and what may happen if temperatures rise to 38-40 degrees Celsius in the tropic zone. The narrative is, in terms of argument, however, unclear.

Climate Change Sceptics

Approximately ten articles are either written by climate change sceptics or by people replying to these; the vast majority is published in the "Comment"-section – this is the case of both DN and SvD. The most common characteristics of the articles written by climate change sceptics is the use of an emotively charged language and the lack of source references; as for the replies they do not have the same emotive language, yet they too fail to specify source information. Whereas SvD clearly identifies the person having written the articles, DN may write a name yet not explain who this person is. In the SvD articles, the climate change sceptics appear as represented by various organisations such as the Stockholm Initiative (an organization inclusive of a few professors formed in order to question the results published by the IPCC); the Swedish Landscape Protection (Svenskt Landskapsskydd); an organization against wind power, and, finally, by a telegram from TT - AF. The replies are instead authored by individuals such as a professor in mathematical statistics at Chalmers University of Technology; two researchers at the Department of Physical Resource Theory at the same university; a graduate in business administration; the managing director of Swedish Wind Energy and by the deputy chairman of the Standing Committee on Environment and Agriculture.

DN publishes an article written by a former executive of the toxicological section at the Swedish Environmental Protection Agency (Naturvårdsverket) entitled "Stop the Swedish environmental extremism" (DN 09-02-22). The article's main thesis holds that Swedish authorities "cannot distinguish between real and marginal environmental threats", that they "are being ruled by an eco-fundamentalism," and that they are "spreading false information". Among the article's claims (and without any source references) are those suggesting that, "it has long been known that there is no simple relationship between the ongoing climate change and emissions of carbon dioxide"; of how, "according to recognized climate researchers, the soot particles are globally responsible for close to half of the warming potential of carbon dioxide, and unlike actions against the latter, a reduction on particle level would have an immediate effect"; and of how past geological epochs have seen "levels of carbon dioxide [...] significantly higher than today." The writer makes this last statement without mentioning the fact that, in those times, mankind did not exist

Equally emotively charged language is found in another DN article, this one entitled "The green fatwa" - the word "fatwa" is here used to connote the irrationality and danger supposedly entailed by an eco-orientated way of thinking (DN 09-07-10). The main thesis here holds there is no way of knowing whether the feedback mechanisms produced during climate change will speed up or, alternatively, slow down global

warming. According to the article, "serious researchers" argue for the possibility of a braking force, whereas "the media only reflects the former possibility (acceleration)." There is no mention of the fact that there are numerous reports indicating feedback mechanisms to be positive (accelerating) (see IPCC, 2007). The author of the article accuses the system of emission rights within the steel industry for "financially crippling the most energy efficient form of steel production, such as SSAB's (a Swedish supplier of high-strength steel), while asking nothing at all from the steelworks in Ukraine". The Swedish authorities also get criticized for trying to make people "buy small cars using small amounts of petrol *without considering the families' need for transportation or the children's safety".* Furthermore, the writer interprets the Brundtland Commission's definition of the term "sustainable growth" (he means "sustainable development") – i.e. "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" – as meaning, "we should not sacrifice present generations in order to achieve something putatively great for the future". Finally he transforms climate issues into ideological ones as he accuses researchers and politicians of being "fanatics of all kinds, loathers of trade and of the market" (DN 09-07-10).

The "Stockholm Initiative" publishes a few articles questioning the existence of a "significant causal link between increased carbon dioxide levels and possible climate change" and claims that "the 20th century's observed temperature rise is not a cause for concern"; that "there are no observations indicating that carbon dioxide emissions have or will have a decisive impact on the climate", and that "the earth's temperature is no longer rising" (SvD 09-03-02; SvD 09-07-31). No source references are provided. In addition to this, the articles claim that the computer-based models researchers use when generating prognoses "are *being constructed* so that moderately elevated levels of carbon dioxide in the atmosphere give rise to considerable warming"; in doing so they implicitly accuse the researchers of manipulating facts. As is often the case with climate change sceptics' argumentations, the poor people of the world are claimed to be the victims of the climate policies brought about by the IPCC's observations; researchers and politicians working to curb climate change are accused of aiming to "dismantle the foundation of our welfare" instead of "tackling real challenges such as of caring for people's well-being".

In one SvD article, a representative of The Swedish Landscape Protection accuses researchers, politicians, media and "the green upper class" of spreading "senseless lies" and "propaganda aiming to scare the population" (SvD 09-11-10). He, moreover, makes a series of claims (without source references) in which he hopes for "the truth [to] catch up with science" - these "truths" being that "the earth's temperature has not increased for many years, the Arctic ice has since 2007 recovered [and] storms and bad weather have not become any worse". Another of these alleged "truths" is that "the temperature in the Antarctic is dropping by 0.006 degrees Celsius per decade"; he does not explain how such a fact could be reconcilable

with those previously stated. The article ends by claiming that when Swedish authorities decide to build "wind power farms in protected nature reserves and areas with protected primeval forest", then "150 000 Swedes are threatened with having their living environment ruined."

The articles written in reply to the climate change sceptics focus upon the sceptics' statements not having support in the scientific literature and upon the claim that scientists would have manipulated their methods in order to achieve dramatic results (SvD 09-03-17); they also address the absurdity of suggesting that half the world's researchers working within the same field of science, and at the same moment in time, would be quite so misguided (SvD 09-07-31) and the downright errors in the climate change sceptics' claims (SvD 09-03-17; SvD 09-11-12). For example, a professor of Mathematical Statistics explains the aforementioned computer-based models as being constructed upon well-founded mechanisms and basic physics, and how they, in case of the physical parameters being uncertain, are run with different parameters in order to get an understanding of this uncertainty (SvD 09-03-17). In reply to the accusation of the purpose of climate policy being to dismantle the Swedish welfare-state, an economist asks in what way the development of solar-, wind- and water power would indicate such a dismantling (SvD 09-07-31). The managing director of Swedish Wind Energy, and the deputy chairman of the Standing Committee on Environment and Agriculture, co-writes a response to the allegations of wind power having a negative effect upon the environmental landscape and to the claims of this energy being state-aided. They claim this to be "pure nonsense" as "electricity consumers purchase an electricity certificate for about 6 öre/kWh out of which approximately 12% is currently spent on wind power [and] the rest on the development of bio-energy heat and hydroelectric power". The replies to the climate change sceptics are in other words attempts to put right what is considered to be wrong; this is done by references to figures and through pedagogical explanations.

Politics

The vast majority of texts dealing with political issues are shorter news items on ongoing agreements between countries such as Sweden and Russia (SvD 09-11-16), U.S. and Russia (SvD 09-07-08) and U.S. and Mexico (DN 09-04-17); on approvals of contracts (DN 09-02-05) and on laws in the process of being approved (DN 09-05-13). In addition to these there are also a few short news items on Sweden and the EU (SvD 09-06-09; SvD 09-06-10; SvD 09-07-01) and some brief replies from the Swedish Social Democratic Party (Socialdemokraterna), The Swedish Liberal People's Party (Folkpartiet Liberalerna) and the Swedish Centre Party (Centerpartiet) (SvD 09-05-14; SvD 09-08-23; SvD 09-10-09). Further, there are two lengthier articles, the first on development assistance, written by the chairman of the International

Commission for Development and Climate appointed by the Swedish government (DN 09-01-07) and the second – published in the "Arts and Entertainment"-section – reflecting upon the book "Silent Spring" from 1962 (DN 09-07-22).

The author of this latter article engages in a comparison between the replies and accusations aimed at the book and its author, Rachel Carson, back in 1962, and those voiced by today's climate sceptics. The book's subject matter was the toxic substances released by humans – especially DDT which was later banned – and the effect these had upon the environment. Carson's critics accused her of being an "alarmist", of wanting to "turn back the clock" and "replace the free market with the Stone Age" and, moreover, of "forgetting to mention the millions of people starving in Africa who need our preparations." The critics also argued that "the environment has always been transforming ,[that] there is no natural balance". The DN article rhetorically asks the reader if these words seem familiar and concludes by stating how "the same American think-tanks that distribute the most carefree climate change denial propaganda are [also] pursuing campaigns against Carson's legacy, for the rehabilitation of DDT".

In connection to a planned meeting between the Swedish Prime Minister and the Russian President during which were to be discussed, among other things, climate issues and guarantees for energy supply, an article published in SvD analyses the reasons behind the Russians initial reluctance to attend (SvD 09-11-16). The first reason is assumed to be the Swedish Foreign Minister stating Russia as solely responsible for the five-day war against Georgia taking place a year earlier, this despite an EU report having claimed the two countries as equally responsible. The second reason mentioned in the article is Sweden having allowed an organisation labelled as terrorist by the Russians, to spread its propaganda over the internet despite both Finland and the Baltic states having banned it; the third reason may, according to the article, have something to do with Sweden perhaps having political reasons for delaying their approval of the Nord Stream Gas Pipeline. The author also makes a brief comparison of Russia's last three presidents in which Boris Yeltsin is described as being a "charmingly loud yet unpredictable president with big alcohol problems", Vladimir Putin as being "coolly calculating and educated by the KGB secret service" and, finally, today's Dmitrij Medvedev as being a man with "a solid legal education" yet who sometimes turns into "a puppet controlled by Putin." Similarly emotively charged and condescending language is used in a short article written by one of SvD's editorial writers at the time of U.S. having "a visit from the Kremlin" in connection to a new agreement between U.S. and Russia on the disarmament of nuclear weapon arsenals (SvD 09-07-08). Here President Obama would allegedly have expressed that "the challenges which U.S. and Russia share (are) climate change and power-hungry Taliban". The writer wonders "how reliable the occasionally rather erratic leaders in the Kremlin are?" and repeats an American businessman's words

(quoted in the Financial Times) who asks "how can we be certain that corrupt Russian authorities are not helping terrorists to obtain nuclear weapons?".

The short news items covering various agreements and proposed legislations deal with subjects such as Turkey having approved the Kyoto Protocol (DN 09-02-05), a new, expected bill in U.S. (DN 09-05-13), and a climate agreement between U.S. and Mexico (DN 09-04-17; SvD 09-04-17). This latter news item (the same one is published in both newspapers) tells of how U.S. and Mexico are to extend their political and technical cooperation by means of creating an "American-Mexican bilateral framework agreement on clean energy and climate change". The news item does not, however, explain what this agreement entails nor the conditions thereof. Furthermore, there is a very short news item on how the U.S. House of Representatives is expected to pass a proposed bill on climate change, according to which the greenhouse gas levels should, by 2020, be 17% below the levels of 2005. There is however no information on how this goal is to be achieved and because the figures are not put into context it is difficult to understand what they actually mean (see DN 09-05-13).

In addition to these articles on various political issues, there are quite a number covering the Copenhagen Climate Change Conference 2009, also known as the Copenhagen Summit. Already in mid-November a researcher from the department of International Relations at Boston University publishes a long article in SvD's "Comment"-section in which he defuses the significance of the Copenhagen Summit by arguing that, from a climate perspective, it makes no difference whether an agreement is reached in 2010 or in 2011 (SvD 09-11-16) . The author also claims it being highly unlikely that President Obama would make any proposals of decisive importance in Copenhagen without first having had approval from the U.S. Congress, from members of the Senate, and from the House of Representatives, and in U.S. at the moment, he asserts, the focus of domestic issues is not upon the climate but on the health care insurance.

An article appearing about two weeks later in the same newspaper also plays down the importance of the Copenhagen Summit (SvD 09-11-29). This one is written by an SvD editorial writer and although he recognizes climate change he nevertheless, seeing the uncertainties in present research results, calls for "a lot more research on how to stop *future* emissions [rather than] stopping those already existing, to such an high expense." Further he states the importance of taking "sensible measures, measures which in any event would be beneficial. And to work *with* the market, not against it. Here [in Sweden] we could for instance contribute by extending the construction of nuclear power."

The Swedish Prime Minister writes a text according to which he too seems to have given up on the possibility of a new agreement; among other things he mentions that "the Copenhagen meeting should result in a *common understanding* of the key substantive issues [and then] we will come to a *legally binding agreement* within the defined period of time"(SvD 09-11-21).

At the same time these articles are being published, defusing the significance of the Copenhagen Summit, other articles appear, telling of the groups of people most affected by climate change today (see for example above-mentioned article on Vietnam and Tanzania).

A few days before the Copenhagen Summit begins, and in connection to President Obama having changed his time of arrival at the conference, a DN journalist suggests Obama has done this so to have a greater impact on the meeting's final outcome. Yet, as the U.S. administration at the same time is trying to dampen the hopes of a binding international agreement, "what can be expected is rather a political interim agreement combined with a promise to meet again in a year and then prepare a formal treaty" (DN 09-12-05).

The articles published during the time of the conference all have a different tone. The principal actors in these texts are U.S., China and Europe and the words written about these countries all ooze with disappointment. For instance, SvD cites a representative of the British aid organization Oxfam comparing the money required to assist the developing countries in adjusting to climate change, to the money spent on salvaging the developed countries' banks. The figures would be $ 200 billion U.S. a year and $ 8400 billion U.S. (to date) respectively (SvD 09-12-07).

Another article, written by a spokesperson of "Green Students Stockholm", also an observing delegate at the conference, asks why the EU and Sweden, among others, "suggest emission reductions which they know is far from enough" and wonders what temperature levels they are *actually* aiming for (SvD 09-12-16). On the day the Copenhagen Summit closes, SvD publishes an article in which U.S. and China are accused of being the main "stumbling blocks" in the development; China for putting growth before environmental matters and U.S. for reasons not clarified (SvD 09-12-19). Countries such as Venezuela, Bolivia, Saudi Arabia, Sudan and Ecuador are mentioned having strong objections to the reached accord ("The Copenhagen Accord"), yet what these objections are and why these countries would have them is not discussed. The article emphasizes how the accord is not legally binding and how it is insufficient in preventing temperatures from rising more than 2 degrees. In terms of financially assisting developing countries to adjust to climate change, there is mention of $ 30 billion U.S. for the years 2010 to 2012, and $ 100 million U.S. per- year thereafter. The conditions entitlement to this money and / or the rules applying as to how they are to be administered are not, however, mentioned. In the DN articles on the Copenhagen Summit published in December, India, Brazil, South Africa and China are blamed for not endorsing the proposal to halve the global greenhouse gas emissions by 2050, and for not wanting to limit the temperature rise to 2 degrees Celsius. In a brief passage it is stated how developing countries ask the rich ones to do more in order to reduce emissions; the connection between such a requirement and the developed countries refusal to comply with it, is nevertheless not explained (e.g. DN 09-12-04).

On the closing day of the Copenhagen Summit, DN publishes three articles. In the first one, representatives of various environmental movements express their view of the accord being a "failure", "toothless", etc. A representative of Friends of the Earth Sweden (Jordens Vänner) accuses the rich countries of having "condemned millions of the world's poorest to hunger, suffering and death'", and the American Sierra Club argues that "the responsibility falls heavily on the U.S. Senate which has not supported President Barack Obama by means of legislations relating to limits on carbon dioxide emissions". A spokesperson for Greenpeace Sweden poses the question of "how many people must die, how much rain forest must burn and how many large cities must be flooded in order for our politicians to understand that it is not possible to negotiate with the climate"(DN 09-12-19). The second article is written by a journalist from TT the Swedish News Agency, who regards "the meeting as a performance in cynicism, selfishness and political hysteria," and argues the main problem being China's stance: "the world has grown accustomed to single out U.S. as the main climate culprit and these accusations have continued, somewhat automatically, in Copenhagen; yet it is increasingly clear that now China is the major stumbling block." (DN 09-12-19). In the third article, the spokesperson of the Swedish Green Party argues that the way the UN-system deals with climate issues needs to change. She calls for a bilateral alliance between both developing and developed countries; an alliance which would include mutual taxes on air traffic between the countries – taxes which could then provide capital for climate investments in developing countries (DN 09-12-19). SvD too describes the Copenhagen Summit as a "major failure", arguing the reached accord to be "watered down" and "the main speed-bumps to be U.S. and China" (SvD 09-12-19). A few days after the closing of the conference, SvD publishes a brief news item stating the price on emission rights to have fallen by 8% in the EU – the lowest it's been for the past six months – and assumes this to be a reaction to the Copenhagen Climate Change Conference (SvD 09 -12-21).

Final considerations

In the material analyzed for the purpose of this study, it is clearly DN which sets the agenda for what is to be considered relevant: at all times DN introduces a theme and then SvD follows suit. Both newspapers have journalists, scientists, politicians, representatives of various organizations as well as single individuals writing articles and news items. The journalists' texts are published in sections of the newspapers called "National", "International" etc., whereas all the others' texts, including the researchers', end up in the "Comment"-section. Letters to the editor, including those signed by researchers, often fail to identify the sources which they use for their argument; it is here common practice to, without further specification, refer to other "researchers" and other "studies".

Examining the material, we have been able to identify a discrepancy between the two newspapers in terms of perspective and diversity; DN's information is more one-sided as are the perspectives more limited. Contrary to what one might expect considering the two newspapers' position in the political spectrum, DN takes a more one-sided stance *against* values normally associated with the left, and *for* the different variants of climate change sceptics; SvD more often allows for different voices to be heard.

Climate change sceptics and those critical of organic farming (in the analyzed material addressed in relation to climate change) make use of words such as "eco-fundamentalism", "environmental extremism", "the green fatwa", "fanatics", "irresponsible and cynical [researchers]", "loathers of trade and of the market" and "the green upper class", i.e. emotively charged words connoting irrationality and ideological manipulation. The replies do not make use of such a charged language. At times, the climate change sceptics' arguments seem desperate, like for instance when Swedish authorities are accused of trying to make people "buy small cars using small amounts of petrol without considering the families' need for transportation or the children's safety" or when scientists are said to be constructing mathematical models in order to get the results they want. Given historical evidence, it may seem ironic how both those sceptical of climate research and those critical of organic farming claim poor people in developing countries to be the principal victims of climate policy as well as of organic farming. The fact that poor countries are the ones most affected by climate change, and that their poverty in fact is largely caused by climate change – which the developed countries are responsible for – in combination with the developed countries' trade barriers, is not mentioned anywhere. The replies to the climate change sceptics and to the proponents of conventional (industrial) farming argue that the latter's statements lack support in the scientific literature.

The way the climate change sceptics construct their sentences rhetorically, makes an interesting point of study. When for example, they state how "it has long been known that there is no simple relationship between the ongoing climate change and emissions of carbon dioxide" they give the impression that the IPCC researchers, and other researchers who the IPCC base its results on, would state the opposite, i.e. that there *is* a straightforward connection between carbon dioxide emissions and climate change. This is not the case. Yet, despite the climate change sceptics and the IPCC researchers actually agreeing on this matter, the reader's pre-understanding (of how the sceptics question the researchers' results) may easily result in him / her getting the impression that the IPCC is in fact simplifying this connection. When the sceptics claim that, "according to recognized climate researchers, the soot particles are globally responsible for close to half of the warming potential of carbon dioxide, and unlike actions against the latter, a reduction on particle level would have immediate effect", they imply that the problem of global warming could be resolved without having to do anything about the carbon dioxide in the atmosphere. In this case,

what is interesting is rather what the sentence does *not* say: namely that the removal of soot particles merely affects the climate locally and during a very brief period of time.

The articles addressing the relationship between the developed and the developing countries inform the reader of how there is a conflict between these two groups; a conflict which has to do with financial assistance and technology transfer from the developed countries to the developing ones. Only one article, published in SvD, mentions the option of giving this technology away or selling it. The complex of problems is however never developed and the historical reasons referred to by the developing countries when arguing their rights to free access to patents and technology are never explained. It is mentioned that some developing countries have objections against the Copenhagen Accord yet the reason behind any such objections are not discussed. As for DN, the liberal newspaper, it paints an even more one-dimensional picture of the developing countries' role in the fight against climate change, particularly in the case of China which is accused of not having their emissions under control and of wanting to make money on technology. Not one article in any of the two newspapers discusses the conditions for technology transfer, or the consequences of any potential financial assistance being distributed via multinational banks. Developing countries are accused of demanding that developed countries reduce their emissions of carbon dioxide by more than what the EU has specified as necessary. Since there is no mention of the developing countries' demands actually not being far from the IPCC's proposal, they are easily interpreted as attempts to exploit the situation for the purpose of the developing countries being able to emit larger quantities themselves. The one article, written by a researcher, which gives a slightly more nuanced perspective on China's emissions and climate policy is published SvD's "Comment"-section, and hence inevitably associated with subjectivity.

The well-known differences between researchers' way of expressing themselves – a result of working with probabilities – and journalists' demand for dramatic effect and (misinterpreted) balance, result in the latter making simplified and therefore inaccurate statements when interpreting the formers' assertions. This is also true of the letters to the editor in which authors without knowledge of how science works talks about scientific evidence not being "complete" – something in fact unachievable within the scientific method.

In addition to the simplifications occurring in the analyzed material – partly due to above-mentioned opposition – there were also two, in my opinion, striking interpretations of other peoples' words. One concerns the Brundtland Commission's definition of sustainable development, the other a statement made by Nicholas Stern; in the first case the interpretation is expressed in a letter to the editor of SvD, in the second in the words of a journalist. When Stern claims that "we need all the carbon-free energy we can get" and that "new nuclear power will not generate electricity until after 2020, and I hope that renewable forms of energy have seen a strong development by then", he is interpreted saying that "new nuclear

power is needed to cope with climate threat. At this moment we can not rule out any possibilities" (SvD 09-07-24). The interpretation of the Brundtland Commission's definition may well be the most imaginative I have ever seen: to meet "the needs of the present without compromising the ability of future generations to meet their own needs" is understood as meaning that present generations should not have to be sacrificed "in order to achieve something putatively great for the future" (DN 09-07-10).

Within the various journalistic narratives, technology and technical solutions are given a prominent place; clearly they are expected to give us what we need in order to solve the climate crisis. Implicit in this idea – the idea of it only being a matter of finding the right technology – is the notion of us being able to continue living in the way we do now, not having to change our consumption habits, the policies governing global trade or, the localisation of resources.

Both newspapers fail to address how different political or economic measures, cultural characteristics and/or our consumption habits may affect issues of environment and climate as well as being part of their solutions. The need for better information and for including it as part of the solution is touched upon a couple of times. It is suggested that flawed policies may stem from a lack of knowledge among politicians, yet this is merely illustrated once, i.e. when the President of the European Commission is quoted having erroneously claimed that the emissions of carbon dioxide needs to be reduced by 50% by 2050.

The critics of organic farming focus on the economic dimension of agriculture and then merely upon the macro-level results. The ecological and the social dimensions are not discussed, nor is the fact that higher crop yields may not mean improvement for the local community or that there are studies actually showing organic farming to result in higher crop yields.

When the same critics address the issue of pesticides, they argue that there are no studies indicating them as being harmful to humans. This is evidently not the case: there *are* studies indicating precisely this. Moreover, the burden of proof is here put on the victims of pesticides and not on the producers.

The issue of pesticides and the known financial interests connected to them is discussed neither by critics nor by advocates of organic farming. When the managing director of the Stockholm Environment Institute speaks of the American company Monsanto it is for the purpose of explaining how their research has enabled farming without tillage; the complex of problems entailed in this company's activities – all well-known within development studies – is not discussed.

All the analyzed articles on the relationship between climate change and nature tell of the consequences which climate change has had, or will have, for nature, but not of the impact nature may have upon the climate.

When journalists set out to explain results which they have gathered from various scientific journals, the outcome can be somewhat problematic. Sometimes because they use scientific concepts without explaining them further, sometimes because they attempt to interpret complex connections.
Articles on nature limit themselves to their specific subjects, mostly individual species, which are the not placed in a larger context, such as, for example, what their significance to humans, local communities, or the wider economy, may be.
Swedish authorities, unlike foreign ones, are presented as good at anticipating potential future problems.

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