

Global Warming, a Major Challenge for Health Promotion Research

”It is worse, much worse than you think.

The slowness of climate change is a fairy tale, perhaps as pernicious as the one that says it isn't happening at all, and if your anxiety about it is dominated by fears of sea-level rise, you are barely scratching the surface of what terrors are possible, even within the lifetime of a teenager today.

Over the past decades, the term ‘Anthropocene’ has climbed into the popular imagination — a name given to the geologic era we live in now, one defined by human intervention in the life of the planet. But however sanguine you might be about the proposition that we have ravaged the natural world, which we surely have, it is another thing entirely to consider the possibility that we have only provoked it, engineering first in ignorance and then in denial a climate system that will now go to war with us for many centuries, perhaps until it destroys us. In the meantime, it will remake us, transforming every aspect of the way we live — the planet no longer nurturing a dream of abundance, but a living nightmare.

All science is speculative to some degree, subject to some future reconsideration or revision. But just how speculative varies from science to science, from specialty to specialty, indeed from study to study. Within climate change research, both the fact of global warming (about 1.1 degrees Celsius since humans first began burning fossil fuels) and its mechanism (the greenhouse gases produced by that burning trap heat radiating upward into the planet's atmosphere) are, at this point, established beyond any shadow of doubt. Exactly how that warming will play out, over the next decades and then the next centuries, is less certain, both because we don't know how quickly humans will drop their addiction to fossil fuels, and because we don't know precisely how the climate system will recalibrate in response to perturbation”(1).

The quotation comes from David Wallace-Wells' 2019 book *The Uninhabitable Earth. A Story of the Future*, a book that makes you simultaneously terrified and hopeful about the future (1).

Supportive Environments for Health

This editorial takes its starting point from the concept of supportive environments for health, a concept that in its broadest sense deals with the climate

change crisis. Industrial development has destroyed parts of nature, with the sixth extinction of wildlife on Earth already underway. Based on this fact and in order to provide hope, we present the new strategy Stop Ecocide and other policy initiatives as well as some examples of small-scale solutions.

In the introduction to the handbook *Creating supportive environments for health*, an outcome of the 1991 Sundsvall conference, we claim that the prerequisites for environmental protection and sustainable development are the same as for health – namely peace, education, food, income, a stable ecosystem, maintainable resources, a supportive social network, social justice and equity. However, the world community is sometimes slow to act. People can usually influence their local situation more directly and more swiftly. Empowering individuals, local authorities and other groups is crucial. Health is not only – perhaps not even primarily – the concern of doctors and nurses. Health is a question of influence, power and resources. Change will not come easily. Advocating community participation means starting a process of decentralization. Such a process is a fundamental challenge to the concentration of political and economic power in the hands of small elites (2).

The concept of supportive environments emerged from the First International Conference on Health Promotion in Ottawa 1986 and was examined in more detail at the Sundsvall Conference in 1991. The handbook sought to bring about change and create advocacy for supportive environments at local, national and international levels. Some changes may be slow and come in stages, brought about peacefully through established channels. Other changes may be sudden, requiring painful confrontations and dramatic shifts in values and resources. In every community and every life there is room for improvement. Some things must be transformed or abandoned in order to build a healthy environment.

Global Warming

In her thesis *Towards the Limits. Climate Change Aspects of Life and Health* in Northern Sweden (3) Maria Furberg studied the climate change effects in Sapmi, the Sami nation with its borders in three of the Nordic countries, Finland, Norway and Sweden, quantifying 30 years of weather changes. During this period, since the 1970s, winters in northern Sweden have been warmer, the snow season and cold periods shorter (some weather stations reported over two months shorter snow cover seasons), and spring has come earlier. Adverse effects on the reindeer herders included stress and threats to their lifestyle. This forced reindeer herders towards the limit of their resilience. Sapmi lies within the Arctic region, and the rate of heating here is even higher than in the rest of the world.

To be engaged in Health Promotion Research has always been like being involved in the fight of Saint George and the Dragon. For a long time, the Dra-

gon was the tobacco industry. In the 1980s, the tobacco industry threatened my colleagues dealing with smoking prevention in different ways. In 2001, this led to new rules being passed on conflict of interest and financial support from the tobacco industry to academic research. The tobacco industry still communicates its messages, nowadays in the form of so called factoids (4). A factoid is an item of unreliable information repeated so often that it becomes accepted as fact. One such factoid repeatedly echoed across the globe by the tobacco industry is that tobacco taxes cause more cigarette smuggling. This factoid is disseminated in order to undermine tobacco control efforts across countries in Asia and globally.

Today, for me, one part of the Dragon is the oil, coal and gas companies. In the 1980s, there was political momentum and political will worldwide for actions against global warming. But, the oil, coal and gas industry mobilised thinktanks. In addition, communication and climate change deniers managed to prevent climate action for decades (5). In 1998, the American Petroleum Institute (API) was created with the following aim: *"Victory will be achieved when average citizens "understand" (recognize) uncertainties in climate science; recognition of uncertainties becomes parts of the "conventional wisdom"*. The experts in API were not climate change experts but experts on translating policy into action and very skilled communicators. A strategy document was developed in order to reach the aims above and a lot of money went to supporting the organisation. In internal EXXON oil company documents from 1978, there are warnings of global warming. They state that if the burning of fossil fuels continues, it will only be five to ten years before critical decisions have to be made. In 1981, they write *"it is distinctly possible that global heating will have catastrophic consequences at least for a substantial fraction of the earth's population"*, and they write further in the report that *"by the time the global warming becomes detectable it could be too late to take effective countermeasures to reduce the effects or even stabilize the situation"*. All this has recently been illustrated in a Danish documentary currently being shown on Swedish TV (6).

New Strategy – Criminalize Ecocide

Thus, the fossil fuel industry has for decades been a merchant of doubts, spreading contrarian climate science while pumping and mining oil, gas and coal. They have successfully created an "ideological" climate change denial among right-wing authoritarian nationalist political parties around the globe (led by Trump, Bolsonaro, and Morrison, to name a few) (7).

Similarly, the industrial revolution was made possible not only by technological innovations but also by shifts in values and law making a new normal. Our global climate emergency needs similar shifts towards care for our planet. Hultman (7) offers two suggestions to that end as outlined below.

” First is the need to try out laws that protect the planet. For many years, scholars from a diverse set of fields such as law, sociology, Indigenous studies, and gender studies have laid out the vision and practice of Rights of Nature, arguing that ‘nature’ in and of itself should be part of political decision making. These ideas are more acute and important today than ever, not least because it seems that only including ‘nature’ as a resource in policy making or as a limit not to be crossed is failing us as a species. Rights of Nature are today inscribed in the constitutions of Ecuador and Bolivia; additionally, rivers in New Zealand and Lake Erie in the United States have been granted rights. This approach could also be implemented globally through the Rome Statute. The Rome Statute underpins international law and, combined with a fifth statute in the form of an End Ecocide Law - similar to the law against Genocide - could bring court cases to the International Criminal Court in the Hague. For example, a case against those responsible for the Great Barrier Reef bleaching may be possible”.

The Rights of Nature and the suggestion to criminalize Ecocide were presented in the white book from the first Swedish Climate Parliament in 2014 (8) and developed further in a recently published book (9). Here is a quotation from the first chapter on the Rights of Nature – an idea for our time:

”After thirty years in Stockholm, I was again hiking in the forests in Bergslagen where I grew up. Bergslagen, the cradle of industrialism. In the woods, I was looking for healing after the isolation I had been experiencing in a consumer culture which promised to cure my loneliness but which in the end just drained my soul of vital energy. I am one of millions of people attracted to the big city who on the way has lost their connection with the earth, with nature, place and local community. And ultimately, with myself. I had enjoyed the fruits of the industrial society, but it took time before I realized deep down inside to what great extent we had reaped these fruits at the expense of the planet. We have taken the right to do as we please with our natural environments. Global crises and disturbing climate changes reflect the fact that we have given ourselves all the rights without giving the ecosystems any rights at all. How could I become part of a change? That longing drove me to explore new avenues. During my forest wanderings, I realized that my rehabilitation would be more challenging than I had thought...

In many places, the forests of my youth with their diversity and wide range of species have been replaced by tree plantations. As I went on walking, I observed the traces of local farms which had also been transformed into tree plantations or left fallow. Villages and small towns which had bustled with life had lost their spark. During the walk I passed deserted mining buildings reminiscent of former glory days. But the ventures had not been

viable. When the mining was no longer profitable, nature and human beings were left to their own devices. In many places, the earth and the water were poisoned. The local population abandoned their home districts, often hoping to find new purpose in the big cities – an ongoing trend in many parts of the world. The urban industries were never able to replace the loss of belonging and connection. A void emerged, as well as pain which passed from generation to generation, even if it was buried and silently contributed to driving us towards unsustainable consumption, which failed to provide the purpose we may have been hoping for.

Which unconsciously evolving laws had enabled a society in which both nature and human beings suffered? How can we transform the unsustainable, western industrial culture, which was nurtured here in Bergslagen? How can we recreate social systems and the business sector that really nourish life instead of impoverishing it? Could Bergslagen again become the cradle of cultural evolution in our society, this time towards a sustainable culture based on a respectful relationship to nature? What would happen if the ecosystems got rights of their own, together with the local communities which need to live in harmony with them? What would these forests look like if the mountain itself would have had a say in making the laws of the mountain? Bergslagen, "the law of the mountain?"

Ecological Masculinities

Secondly, Hultman writes:

"There is the need to change the gender norms that shape men into 'industrial/breadwinner masculinities'. This way of framing maleness is today present mostly in the same aforementioned cohort of climate change deniers and is failing both men themselves and the broader societies they live in; just look how Scott Morrison handled the fires in Australia, or how Jair Bolsonaro acts now with COVID-19. A shift is needed toward masculinities with greater care for men themselves, as well as for women, youths, societies, and the Earth. In scholarship and education, younger and more aware men are turning toward what has been termed "ecological masculinities" as a way to be just and careful with all humans and non-humans alike. Inspired by academic rigor from the traditions of ecological feminism and feminist care theory, 'ecological masculinities' enacting caring encounters with self and others, recognises our material interconnectedness with humans and other-than-humans alike, identifying the costs of male domination as well as in pro-feminist solidarity creating a just society for all bringing us back to Earth"(10).

For more on Masculinity, see Issue no 2, 2020 of Socialmedicinsk tidskrift (11).

The Open Letter

During the summer of 2020, Greta Thunberg et.al. sent an open letter to all EU leaders and heads of state. (See page 503 for the letter).

She writes: “You must stop pretending that we can solve the climate and ecological crisis without treating it as a crisis. Here are our demands in this open letter:

These are some first steps, essential to our chance of avoiding a climate and ecological disaster.

- Effective immediately, halt all investments in fossil fuel exploration and extraction, immediately end all fossil fuel subsidies and immediately and completely divest from fossil fuels.
- EU member states must advocate to make ecocide an international crime at the International Criminal Court.
- Include total emissions in all figures and targets, including consumption index, international aviation and shipping.
- Starting today – establish annual, binding carbon budgets based on the current best available science and the IPCC’s budget which gives us a 66% chance of limiting the global temperature rise to below 1.5 °C. They need to include the global aspect of equity, tipping points and feedback loops and shouldn’t depend on assumptions of possible future negative emissions technologies.
- Safeguard and protect democracy.
- Design climate policies that protect workers and the most vulnerable and reduce all forms of inequality: economic, racial and gender.
- Treat the climate and ecological emergency like an emergency.”

These demands are supported by another new book by Martin Hultman and his research collaborators at Chalmers University of Technology, Gothenburg on Global Heating (12).

The EU Plans and Hydrogen Policy

Policymaking is one of the most important issues in Health Promotion research.

According to an EC communication on EU’s Hydrogen Roadmap Europe (13):

”Hydrogen is enjoying a renewed and rapidly growing attention in Europe and around the world. Hydrogen can be used as a feedstock, a fuel or an energy carrier and storage, and has many possible applications across industry, transport, power and buildings sectors. Most importantly, it does not emit

CO₂ and almost no air pollution when used. It thus offers a solution to decarbonise industrial processes and economic sectors where reducing carbon emissions is both urgent and hard to achieve. All this makes hydrogen essential to support the EU's commitment to reach carbon neutrality by 2050 and for the global effort to implement the Paris Agreement while working towards zero pollution”.

In issue 3, 2019 of *Socialmedicinsk tidskrift*, a theme issue on the *Climate Crisis and the Need for New Stories*, a number of articles presented possibilities for change aiming at engendering hope. Stories were collected from areas like homes and neighborhoods, transport, energy, and food and nutrition. All areas are closely linked to climate change and crucial for public health. Storytelling as a method was used already in the Sundsvall Handbook, the strength of stories, or narratives being that they can be adapted to individual and local situations and inspire action (14). Several of the articles focused on the use of hydrogen in sectors like transport, building and industry (15,16).

Nordic Policies and Climate Change

Denmark is at the forefront of formulating policies on Climate Change in the Nordic countries. Already in 2010 a Scientific American article stated that:

”Denmark could become one of the first countries in the world to completely stop using oil, gas and coal by 2050 if it boosts wind production by as much as six times and hikes taxes on fossil fuels tenfold, a government-appointed commission said (17). The commission appointed 2008 said, renouncing fossil fuels requires ”a total conversion of the Danish energy system”. The targets, relevant to the Danish climate policies, originate partly in decisions on specific national ambitions and partly in the Danish obligations to comply with a set of international agreements in the energy field within the EU and the UN. Denmark is now widely recognized as a global leader in integrating variable renewable energy, while at the same time maintaining a highly reliable and secure electricity system, thanks to a flexible domestic power system and a high level of cross-border connections (18). During the summer of 2020, as part of the renewal in Denmark after the pandemic, the prime minister announced a new negotiated climate plan and law on CO₂ reduction. One of the outcomes is the installation of solar panel systems producing green hydrogen on two islands.

What happens in Finland, Iceland and Norway has to be left for future Health Promotion research.

Meanwhile in Sweden, during the summer of 2020, the government had to decide if it should allow Preem, the largest fuel company in Sweden, to double its fuel capacity to refine and sell gasoline and further increase the CO₂ content.

Apart from this, Swedish policies and roadmaps related to climate change have focused on electric cars and biofuel extracted from the Swedish forests.

Large-Scale vs. Small-Scale Solutions

At the beginning of this article, we claimed that change will not come easy. The process of decentralization is a threat for those with economic power. This is illustrated by what happened in the 1980s, when the oil, coal, and gas companies mobilized their forces to stop climate actions, often working together with the nuclear industry. They used the same strategies as tobacco companies previously had done in trying to stop smoking prevention activities. In this way, oil company representatives succeeded in preventing climate actions for decades. Hultman has analyzed this process in depth in a book (5), but also more briefly in the Climate Change Issue of *Socialmedicinsk tidskrift* (19). There are two conflicting approaches, the large-scale approach of the oil companies and their deniers of climate change, and the small-scale approach advanced by local proponents and environmentalists. The choice of the Swedish government in the 1980s (and to a high degree still today) is to advance the large-scale solutions with “more-of-the-same”. So we end up with more use of fossil fuels, e.g., by the Preem company on the Swedish west coast and a 4th generation of nuclear power. The small-scale activity during the 1980s was concentrated to the so called Welgas project in Härnösand in the middle of Sweden. The main component of this project was a wind turbine producing electricity for an electrolyzer creating hydrogen from water. This was used for heating the building (energy) and transport in a hydrogen driven car (a SAAB). Thus, a totally off-grid solution.

Mariestad - the Frontline Swedish Off-Grid Municipality

Today, some 40 years later, a number of Swedish municipalities have established the same type of off-grid solutions, led by the municipality of Mariestad in the south west (20). Instead of wind turbines, they have built a solar cell park producing electricity for an electrolyzer. It produces green hydrogen for energy, (heat) in buildings and also to run the 14 hydrogen-driven municipality cars (21,22). These activities have so far mainly been supported by local private industries and local politicians.

However, during the summer of 2020, the Swedish government has changed its view on hydrogen solutions and claimed that it will support the EU hydrogen policy and make a new Swedish National Hydrogen Plan as well.

Challenges for Health Promotion Research

Keolen et al. have analysed problems and opportunities in health promotion research, aiming at generating ideas for future development. They state that research in health promotion should be oriented towards the improvement of Health Promotion practice. There is a need for a better understanding of health risk factors and salutogenesis, but also of the role of the environment in creating or damaging health. In addition we need know-how to be able to reorient health services, reduce inequalities in health, and achieve successful community participation and intersectoral work (23). During the past two conferences of the Nordic Health Promotion Research Network, there have been workshop discussions on the integration of sustainable development principles and their relation to health promotion (24). At the 9th conference in 2019, discussion focused on the climate crisis and sustainability against the background of *Socialmedicinsk tidskrift's* (smt) recently published issue on the Climate Crisis (14).

The Existential About-Face

Another focus of the discussion was the involvement by representatives of churches in the Swedish debate on the climate crisis. The ongoing dialogue within Ecotheology between natural scientists and theologians was also the topic of a recently published book (25). Two contributions in the above-mentioned smt issue were penned by former Swedish archbishops, of which KG Hammar (26) in his article says:

“We can't continue with our lifestyles as before, knowing that this will cause climate changes. And this will threaten the right of future generations to lead decent lives. We **know** that we have to do something. We also know **how** to do it. But do we **want** to do what is needed? And if we want to, do we dare? If we do not want or **dare** to, then it is not a political question. Not even a technical question. Then it is an existential or spiritual question“.

In his article ‘Why should 'nt we dare?’, Anders Wejryd (27) has a quote:

”I used to think that top environmental problems were biodiversity loss, ecosystem collapse and climate change. I thought that 30 years of good science could address these problems. I was wrong.

The top environmental problems are selfishness, greed and apathy, and to deal with these we need a cultural and spiritual transformation. And the scientists don't know how to do that.”

The real challenges for Health Promotion Research will be how to contribute

towards and influence the process of curbing climate warming. We are currently in the midst of a crisis associated with the COVID-19 pandemic. But a crisis can also be the starting point for change, especially currently in restarting countries and communities after the pandemic (28).

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