

SOCIETY, AGENCY AND ENVIRONMENT: WHAT WE CAN LEARN FROM HISTORY

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In this essay I will raise some issues which I think environmental history should and would do well to address. Since the last decade there has been a renaissance of global environmental syntheses with the implicit or explicit aim to address problems of sustainability today. As an archaeologist I share this interest in history, but the problem of environmental history is that it rarely addresses the very issues of relevance today. The stories of ecological suicides, environmental degradation and collapse of society due to climate change are good stories, they provide as Cronon (1992) would say *moral lessons*. They may convince us that we need to change our society but they will not help us understand how.

If we agree that societal transitions are necessary to meet the challenges of a more sustainable future, we need to have tools to make these transitions happen; we need to know which transitions are more sustainable than others and to what we want these transitions to lead. History can help us here, as a range of different solutions available have been tested and evaluated in the past. This means, however, that we need to focus on specific places and times and on the very complexities of societal dynamics – as indeed is done in the essays of this book – and that has been advocated by *Historical Ecology* (Balée 2006, Crumley 2007, Costanza et al 2007) and also Chakrabarty (2009). We need to better understand what factors tend to drive transitions in society: is it strong individuals, collective demands, state control, innovation, resilience, slow gradual transitions or revolutionary changes, environmental pressure mediated in society or economic-social or a combination of such factors? The list could be infinitely longer.

I will argue the importance of understanding and taking seriously *societal dynamics* by raising a few selected examples from the past and present, and by associating freely. The text will be structured around the following statements:

- Responses, reactions and actions in relation to climate variability and environmental disasters are always mediated through the social world.
- Environmental problems are never just environmental but are always rooted in the social and political world.
- Decisions and actions against risks can both ameliorate and mitigate the effects of environmental disasters and climate change
- If society is the root of a given environmental problem then society also have the capacity to change this negative relationship

Responses, reactions and actions in relation to climate variability and environmental disasters are always mediated through the social world.

Beginning with our own time; our explanations of climate and environmental disasters is not as rational as the secularized, urbanized and globalized members of the world community tend to think. We tend to make sense out of climatic variability and environmental disaster as if we could personally affect or contain it, or as if these large scale physical phenomena was carrying a message to us as individuals.



Climatic events such as El Niño may be referred to as the response of Mother Nature to a carbon-dioxide-holic society, and concomitantly be turned into a moral lesson, a moral story. In the same way, environmental histories have a tendency to be used as tell-tale examples for the present society to take heed of. There are at least two different stories of the history of Easter Island. These stories are not only built on differing opinions of what actually happened in the past, but also differs in opinions about the present and how the problems of the present are to be perceived. We could, for instance, explain what happened as an ecocide, that is Easter Islanders were, like us today, culprits of their own destruction caused by unsustainable use of resources (cf Sörlin and Öckerman 1998, Redman 1999, Hughes 2001, Diamond 2005, Ponting 2007 amongst many others). Or we could perceive what happened as a genocide – that Easter Islanders were victims of colonial expansion, imperialism and Euro-American hegemony (cf Peiser 2005, Hunt 2007, Radkau 2008), the effects of which are still played out today and needs to be amended if we want a sustainable future. I raise the Easter Island example here to stress that whichever of the two stories you prefer as the truth, the example is likely to contribute to shape and reshape your understanding of the environmental problems of today – it will form the way you speak about the problems and the actions you take.

The same way that we tend to humanize our pets we tend to socialize the environment. As the Swedish sociologist Asplund (1983, 181-184) have stated, the environment is *Hyper responsive* – whatever worldview, religions and ideologies – we attempt to make sense of the environment as part of ourselves and our society. In my own field studies I interviewed elders on the occurrence of droughts and floods and a variety of reasons were given; from the naturalness of these

occurrences to the idea that weak leaders or wars stopped the rain (Ekblom 2004). Linking droughts to social unrest or bad rule is part of a political debate. Feierman (1992) has shown how the everyday discussions of droughts and floods in Tanzania are embedded in power politics – strong, good leaders give good rains and vice versa – and rain becomes part of the rhetoric of criticizing a leader. This may perhaps to a Swedish person appear exotic and mere superstition, but also in Sweden people tend to talk about weather and climatic events in the context of a social and political debate.

Maybe the best example of how responses are mediated through the social world is the debate on global warming and its causes. Both in public and scientific debate global warming, its causes and implications is completely entangled in power politics. This debate also shows how physical changes in the environment become important only when we believe they are happening. There is room only to give one historical example. In Constantinople during the 8th century AD, there were two disastrous years equal in their environmental signature - it was climatically induced. But these two events had completely different outcomes in society. One of these years was prophesized in scrolls as a year of disaster and societal collapse. In this year economy and society remained relatively stable. The other year of environmental disaster was totally unexpected and economy and social life collapsed. These were two similar environmental disasters with two entirely different interpretations and effects in society]. Archaeological research of prehistoric Indian farming communities in the American Southwest have revealed that climatic disasters was met by different communities in the closer regions in many different ways; from migration to intensification of water and resources management (see volume edited by Fabricius and Schoon 2010)

These few examples are given to emphasize climatic events and environmental disasters as always mediated through the social world. From this it follows that there is never a simple relationship between environment on the one hand and society on the other and that, as will be discussed below, *environmental problems are never just environmental*.

Environmental problems are never just environmental, but are always rooted in the social and political world.

In any given situation- climate disaster, or environmental degradation - there is a range of solutions and options available on which members of society can choose and act upon. Linkages made by historians between climate change and societal change will never be more than speculation if historians do not attempt to understand how social norms constrained the range of choices individuals in a society had, or to what degree individuals conformed to those constraints, or how socio-economic and political relationships in society formed actions in relation to the environment.

Historical studies of short term climatic events and how they are mediated in society offers a potential, not only for understanding past socio-environmental dynamics, but also the dynamics present in society today. One such example is an event 536-537 AD, which is known from several written documents and have been associated with a cooling in the northern hemisphere probably due to volcanic eruptions. In Scandinavia this event, according to Gräslund (2007), has been referred to as the *Fimbulwinter* and it was marked by two years without summer. The event in Scandinavia resulted in depopulation in many areas, probably associated with an overall population decline due to starvation. The fact that areas were depopulated led to a social and political reorganization as a few families managed to take control over large tracts of land. With this there was an emerging aristocratic class and a new socio-political system emerging. (Gräslund 2007)

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However, there is no apparent direction to how such climatic events are mediated in society. Social networks, centralized control, socio-political structure, all shape the societal effects of climate events such as the Fimbulwinter. The El Niño event, 1877-1878, affected many areas of the globe and very severely in India where millions of people died of starvation as their crops failed. The link between the droughts and societal effects may appear to be evident, but the human disaster had as much to do with global economy. In this later case the disaster coincided with a global economic recession, as well as with the colonial British rule of India when the government decided not to mitigate the disaster. While people in India died of starvation, 320 000 000 kg of cereal grain was exported from India to Britain (see summary in Fagan 1999, 222-230). This can be contrasted with another El Niño drought event, 1743-1744, and how it was mitigated in northern China. The droughts here caused crop failures for two years but a local administrator made strong and directed efforts to mitigate the effects. All granaries were opened and transport of grain was administered from wetter regions. Two million farmers were supported on grain for eight months, 85% of it coming from outside the area (Fagan 1999, 222-230). According to Fagan, rulers in China were highly involved in administration of food supplies. Speculation in grain prices were highly penalized and there was a large investment in transport routes such as the Grand Canal. Mitigation of drought-related disasters was part of the governmental policy. Manuals for relief management and planning were written and legislated. Fagan (1999) estimates that c. 10% of the state budget was allocated to maintaining food surpluses for bad years.

The prudent drought mitigation policies of 18th century China stands as a sharp contrast to the policies of many contemporary 18th century European countries that also experienced food crises in the same century. The 18th century China example also stands in contrast to British colonial policies in the 19th century, and indeed to policies of many states today. In the 19th century, Britain adopted the so called *laissez-faire* (i.e. let be) policy towards local economy in its colonies. This new policy was informed by the economic theories of Adam Smith, amongst others, in which it was prescribed that state intervention, for instance price regulation was detrimental for local economy. The mass starvation in India 1877-1878, is a clear example of the effects of this policy. Another case is the drought event 1949-1950 in Malawi, then the British protectorate of Nyasaland. During this time severe famines occurred relating to disastrous droughts. The drought was devastating for local farming, in a time where colonial authorities had encouraged a transition To be published in Ekblom and Notelid (*Forthcoming*) Miljöhistorier: Personliga, lokala, globala historier om dåtid, nutid och framtid. Uppsala, Cemus.

to cash cropping, reducing the variability of crops grown, which made local farming more vulnerable. Colonial authorities decided not to mitigate the famines by providing relief food. This was not, however, a decision based only on the dominant economic paradigm. It was also widely believed that the failure of crops and subsequent famines in Malawi was, ultimately, caused by environmental degradation because of overpopulation (Vaughan 1987). According to the 19th century writer, Malthus, famines were the outcome of overpopulation and in his followers view famines and diseases were to be considered as necessary factors to keep population growth in check. This cynical idea has been very influential in European based relief management since the 18th century with disastrous effects. In Malawi, as in many other parts of the world, the Malthusian inspired ideas adopted by authorities, that famines were conditioned by overpopulation and degradation and thus in a sense necessary to regulate degradation, has been as much to blame for famines as has droughts and actual environmental degradation.

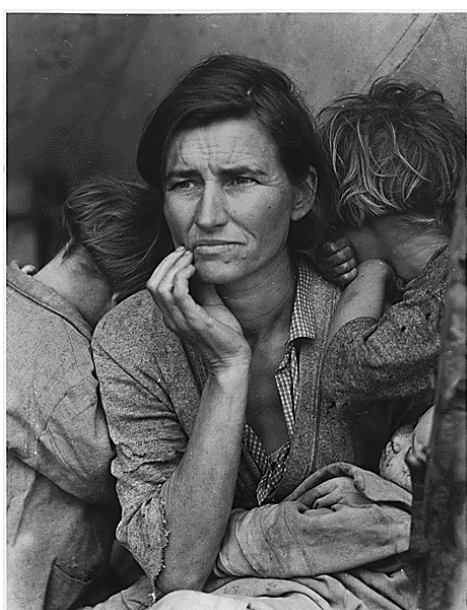
I will continue to use southern Africa as an example. In southern Africa climatic variability is an ever present part of the landscape and droughts occur frequently. Despite this, Beach (1994) argues that famines due to droughts were rare in pre-colonial days. There were a number of solutions available for households in times of scarcity. These included invigorating alliances between families and across regions, members of families moving to other areas, allying to a strong leader with big granaries, living of the wild (see also Ekblom 2004). If we return to Malawi 1949-1950, as state authorities decided not to mitigate the disaster in any way this range of solutions was taken by different households and, much to surprise of officials, the famines did not result in death tolls as large as expected (Vaughan 1987).



People queuing for bread in Maputo, Mozambique. Street riots occurred in 2009 due to the increase of grain prices linked with global market prices in combination with Mozambique inflation. Photo Grant Neuberger, Reuters

A review of the famines that have occurred since the 1950s show that famines often are not directly related with food supply or decline of food production due to, for instance, climatic variability (Sen 1981). Food is today a commodity and has probably been so since the onset of urbanism. Availability of food depend on access or what the researcher Amartya Sen calls "entitlements". Money brings entitlements but other entitlements can include alliances,

labour contracts, exchange etc. This means that there can be plenty of food but if you have no "entitlements" to food, you starve. During the El Niño event in India 1877-1878, many Indians did not have entitlements to food while export of grain abounded. Many other examples can be given from history. The mass starvation in connection with the potato blight in Ireland 1840 can be said to have been caused by an excessive monocultivation of potato of one single potato species, but the mass starvation can equally be said to have been caused by the Irish having little entitlements to food. Throughout the crises grain was exported and the effects of the potato blight were not mitigated (see summary in Montgomery 2007, 109). The recent bread riots in Mozambique and North Africa in 2009-2010 did not occur because of a local food crises. They occurred because of the combination of low salaries, high unemployment, and high inflation in combination with a rise of grain prices globally (in turn due to crop failures in Pakistan). With the monetary economy, if you have no money and no other entitlements in form of social networks or rights to social security systems of some kind you will starve.



Florence Owens Thompson, 1936, a destitute mother of seven children migrating for work after in the years of the great depression. This photo was taken by Dorothea Lange and has become known as "migrant mother".

With the few examples above I have attempted to show that what links climate events with food scarcity and disaster is *society*, i.e. the entanglements of political rule and governance, global and local economy, social norms and individual actions. The statement made in the title of this paragraph could also be rephrased to add that *Environmental problems are never just local*. In the wake of the severe dust storms in the plains area, USA in the 1930s referred to as the "dustbowl", more than 100 000 people became homeless. A series of droughts which struck the area in the 1930s was preceded by a period of an intensive farming without rotation – thus it can be said that this was an environmental crises caused by human induced degradation in this area and climate variability. But if we are to understand how this crises came about this is not explanation enough. First the dustbowl was preceded by an economic recession that was felt globally, and household economies were already extremely strained. Households had large mortgages on their houses which meant that even if they could have withstood the effects of the droughts they could not pay their loans. Since many years monoculture, particularly of wheat, was the preferred style of cultivation in the region, which in turn was connected with high global grain prices and the economic reality of local households. Mono cultivation was encouraged by authorities as production and export of grain gave high revenues to the region (see Ekman in this volume). But, it was an agricultural system which was particularly badly suited for an area with an unstable climate. Governmental authorities and soil specialist were of the opinion that dry soils could be

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made more fertile with deep plowing as this would allow the groundwater to wet the soil. Soil degradation was amended by deep plowing which only exasperated the problem – a peculiar idea which seems to have recurred over history from roman times to the dustbowl. In summary there was a number of social and economic reasons why the effects of the drought was so severely felt in the great plains area not the least the entanglement of local economy into the wider market economy (Worster 1986).

Decisions and actions can both ameliorate and mitigate the effects of environmental disasters and climate change

The examples I have given above have already stressed this point, but I will add a more recent case. In August 2005 the hurricane Katrina struck New Orleans that flooded and destroyed large parts of New Orleans, 90% of the population was evacuated, many of which are still displaced, and 1464 people died (Louisiana Department of Health and Hospitals 2006). The displacement and death of people cannot be explained solely as the result of the environmental disaster. The risk of severe flooding in New Orleans has been known since long. Severe floods occurred in 1965 (see picture). Warning systems, flood controls and levee systems were in place but the latter, according to critics, was not well managed and was still under construction. Urban planning had not come to grips with the combination of a sinking town and raising sea levels. Louisiana's senator's hade made several unsuccessful pleas to Congress for mitigation since the 1980s (Fischetti 2001). The disaster was exasperated by the fact that, as many of the levees were breached, power failures caused a total breakdown in communication systems and there was no backup system. Evacuation was to slow and inefficient and civil unrest, i.e. both the actual looting and the exaggerated reports of civil unrest in media, made it worse (Solnit 2009). Furthermore the effects of the disaster and the aftermaths of it was and remain socially unequal. In short, from the New Orleans case, it is clear that having a historic knowledge of flooding was not enough; this underlines the argument I am trying to make here that history also needs to provide examples of how flooding can be incorporated into urban planning and mitigation policies.



Flooding in New Orleans 1965, after hurricane Betsy one of the many floods that have occurred in New Orleans historically

The example of 18th century China given above is one positive case of how authorities can mitigate the effects of environmental disaster. Environmental history could give us many historical examples that provide not only moral lessons, but also opportunities for learning. Venice, also a town plagued by floods, has dealt with its unfortunate environmental condition throughout its history. Already in medieval times there was a council specifically concerned with water management and environmental problems. Any urban expansion and/or mitigation efforts when it came to water management or construction was highly debated and regulated (Radkau 2008, 118).

The tragedy of the commons debate and the pros and cons of collective ownership is another instance of different solutions that can be evaluated in the past. The expression “tragedy of the commons” was launched by Hardin (1968) who, on the basis of historic examples, argued that collective ownership in the form of “commons” was detrimental to the environment as people tend to take less care of resources which they do not own. Other historical cases were used by Ostrom et al (1999) to illustrate that it was precisely the opposite. Not surprisingly this debate has become completely entangled in the discourse for and against market liberalism. This debate is not a new one however, it has recurred in history from the days of classical Rome (Montgomery 2007, 56-65), to medieval Venice (Radkau 2008, 188) to the 18th century England (Montgomery 2007, 94-107, Thirsk 1997). In many areas and times collective ownership has been a positive check on environmental degradation, whereas in some areas and times it has not. In some areas and times, private ownership can be directly linked with environmental degradation (the best example being the modern day) and we need to study these cases in detail to understand which solutions were viable and why.

There could be many many more examples given if environmental historians were more prepared to dwell on detail rather than to make sweeping analysis. The challenges which now stand before us – when it comes to planning for sustainable cities, governance for transition and environmental policies and its implementation on the ground – needs to be informed by detail. As the Swedish saying goes *this is where the devil resides*. By evaluating the range of solutions available to us via the past we are likely to do less damage in the present. Scott (1998) presents in his book *Seeing like a state* several historical case studies that clearly illustrates the complex interplay between governance, environment and human action. On the basis of past experiences, Scott has four pieces of advice to give to policy makers: Take small steps, favor reversability, plan on surprises and plan on human inventiveness.

If society is the root of environmental problems then society also have the capacity to change this negative relationship

An understanding of societal dynamics when analyzing historic events will help us understand our own society and the implications and viability of the wide range of solutions, responses, actions and choices of transitions or stabilities that we do have. Many solutions have been tested. For instance, since the 19th century, with technological innovations we have learnt that society can change the ultimate environmental conditions under which we live - i.e. global atmospheric patterns, the effect of solar insolation, circulation of currents and winds and fertility of soils and yields of grains – but in general these innovations has been to the worse, resulting in global warming and linked climate disasters, biodiversity loss, soil degradation and loss of resilience in crops. There is a two way solution to this dilemma: (1) either we manage to launch new technological solutions that can circumvent these problems so that we can, in part, undo what has been done, or (2) we have to change our way of life. What we can learn from recent history

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however is that technological solutions tend to foster new environmental problems. Also, we need to better understand how technological innovations are encouraged and restrained by economy, politics and social networks. The best solution is not always the one that is adopted in society. The steam engine, an innovation that was crucial to the industrial revolution in the 18th century, was reportedly invented in Alexandria 62 AD (Hughes 1994). Apparently, no obvious use was found for the steam engine at the time. On the other hand, the invention of the exhaust engine at the turn of the 19th century was quickly adopted in society but has blocked all other possible solutions of transport and communication up until now. Welzer and Leggewie (2010) saw in the financial crises 2009 a chance – a possibility for transformation and this has also been advocated by Florida (2010). These authors with disappointment makes remarks on the lengths to which governments are prepared to sustain a dying industry based on a non-viable technology (so called “Zombie” industries/companies).

To me, historical cases does not provide mere moral lessons aimed to inform us about our impending doom, but sources of information of the viable and non viable solutions that can be chosen and acted upon. Most of us know that living over your resources is a short term and non-viable solution. Accepting that society is the root of environmental problems means that we have the possibility and responsibility to change, we just to need to be better informed on *how* and this is where history can help us.

A final comment

Environmental history, as an unfolding series of events, as a long storyline from past to present can be much more refined. We tend to read history “backwards” with the effect that the present appears to be the logical or *necessary* outcome of the past. This creates the illusion that present day solutions are, in an evolutionary sense, the winners of the game. It is noticeable that many of the synthesizes on global environmental history, though intended as a societal critique, tends to convey to the reader that the way present day society is organized is *inevitable*. However, as stated by Scott (1998), an historical event is sometimes simply the way it is and the series of events that unfolded – which we call history – might easily have turned out otherwise. The same way, though the future is conditioned by history, and it may seem that we are locked into contingent social, political and economic structures impossible to escape – we can choose either between just reproducing these structures, with the likely result that the problems will not go away, or to transform them to better serve our goals.

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