

MAR-E1006 - Landscape Architecture and Research

## **Landscape and the Sustainable Development Oxymoron**

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The concept of sustainable development is so widely talked about, sometimes without a clear definition invoked. In the past two months we have been exposed to a wide range of sources that try to tackle the many aspects associated with this concept. Some have been very focussed on certain issues such as social issues, food scarcity, activism, ecology or biodiversity, while others have tried to understand the many interrelated complex systems underlying this concept. It has been an extremely insightful journey with many ups and downs of personal struggles with some themes, and sometimes an overlaying frustration with the complexity of the topic which does not seem to clearly lead to a unidirectional answer. If I jump back to two months ago, my main interests had been cities, and human agency within them. These themes have been touched upon frequently in the readings and discussions, and of course my viewpoints on them have evolved with the knowledge I was exposed to. What I will try to do in this essay is to identify why both themes are important in the sustainable development debate, relating them to our socio-cultural, technological realm and its entanglement with 'nature'. I will also try to identify the main aspects, in my opinion, that need to be considered in a general scope when discussing sustainable development.

Firstly, I will define the term sustainable development, according to my views on the topic. It is contested whether the term 'sustainability' is even the right one. To be sustainable is to maintain something at the same level. In webs of interlinked, complex systems, a state of equilibrium at a certain level is found, only to be maintained at that level until an internal or external factor shakes the equilibrium in that system. In order for these systems to continue, or maintain themselves, a newly established level of equilibrium has to be found. This has also been referred to as 'resilience'; the ability of the system to persevere, adjusting to sudden circumstances without collapse. As for the term development, I had always associated it with growth. I have now come to realise that this association probably comes from the economic model that encompasses our reality. The term in this context can also mean 'change'; a state of change that is not necessarily associated with growth, but with wellbeing. The wellbeing of what can be contested; humans, non-humans, or the environment? Sustainable development as a concept was defined by the Brundtland Report as: 'Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.' (WCED, 1987). The report recognised the need for limits, nonetheless, does not jeopardise the concept of 'economic growth', but rather calls for it to be environmentally and socially sustainable.

The definition of 'sustainable development' from the Brundtland report as been criticised for being 'an unashamedly anthropocentric concept' (Lee K., cited in Hopwood et al., 2005). Development here is viewed as the improvement of human wellbeing through economic growth. Within the definition of the term itself we see notions referring to human development, through economic growth, within the limits of planetary boundaries, touching upon the three scopes generally associated to sustainability; social, economic and environmental. The report recognises the dependence of societies on nature, and the environment, yet, the relationship between them needs to be better defined.

The last two hundred years or so, have seen a division in the view of nature from society, and societal issues (Hopwood, 2005). There has been a dualism in thought, particularly in Western thinking, between 'nature' and 'society', which regards the domination of nature as necessary for human wellbeing (White et al., 2016:19). This instrumental view is linked to the scientific revolution, the development of capitalism and the industrial revolution (Hopwood 2005). The emergence of the Brundtland Report was important because it acknowledged our dependence on nature, and also emphasised the idea of limits.

There is ongoing debate about these limits, translated in the form of 'weak' or 'strong' sustainability. Weak sustainability allows for 'trade-offs between economic and environmental aspects, assuming that natural capital is substitutable by manufactured technology, favouring economic growth over environmental degradation (Biely et al., 2016). It is endorsed by the Promethean view which emphasizes the role of technological innovation in transcending natural limits (White et al., 2016:60). Whereas, Strong sustainability takes the view that economy is not superior to the environment, but rather bounded by it, and the belief that technology is not the only solution to the challenges we face. A fundamental change in the economic system is called for, as capitalism and exponential economic growth is causing global ecological decline, and therefore is simply not feasible in the biophysical reality of a world of finite resources (Rees, 2003).

Before determining what type of sustainability is feasible, I think it is essential that we first position ourselves within the environment and landscapes that surround us and redefine society's relation to nature through history. As Joachim Radkau states: 'An impartial environmental history does not recount how humanity has violated pure nature; rather it recounts the process of organisation, self-organisation and decay in hybrid human-nature combinations.' (White et al., 2016:36). What this points out is the status of Humans as biological beings, interacting with nature and other biotic beings the same way they do with us and other 'nature'. We are in a constant intertwined relationship with our natural and material environment, constantly shaping, and being shaped by it. Marx offers the view point that we are undoubtedly in unity with nature, and it is not that which needs to be questioned, but rather our separation from nature (White et al, 2016:25). He explains that we are mutually interacting with our environments, formed by them and also forming them; social relations, institutions, and ideologies come out of interactions with nature. Therefore, our social conditions are embedded within and are in a dynamic relation with ecological and environmental contexts, and this mutual metabolism creates both possibilities and constraints for social development (White et al, 2016). Other than socio-ecological history, we also live in material worlds where our innovation and technologies also start to metabolise with us in socio-technical relations. Donna Haraway takes this notion forward by arguing that the social, the natural, the human, and the material are not separate ontological realms, but rather that their intertwining interdependencies precede their material entities and categories. She argues that humans and non-human are in a constant dynamic state of interaction, becoming, and world-transforming (White et al., 2016:33).

This re-conceptualising of the social, natural, and material changes the way we view our environments. The natural is no longer something out there that we only benefit from, or that we are passively shaped by. Here we recognise society as actively interacting and reshaping environments. Which is also why I believe that discussing social values is a very important part of the sustainability debate. What also needs to be recognised is that this human agency is not solely acting in the world, it is also entangled in many other living and non-living agencies and forces. What is clear is that through these interactions, we have been dependent on our ecological environments, and now technological too. So, we are now living in a web of socio-ecological technological interdependencies. One argument why the sustainable development concept is inherently anthropocentric is because it is a socially mediated concept, it is a problem of our sustenance as a species. The biosphere will continue regardless of climate change, and life will evolve again somehow. What is contested, is our survival, the survival of many other beings, and whether or not we wish to save them with us remains a moral question, if technology will solve all other problems.

Socio-cultural norms have developed in diverse ways across humanity through different ecological, technological interactions. What the anthropocentric view does not

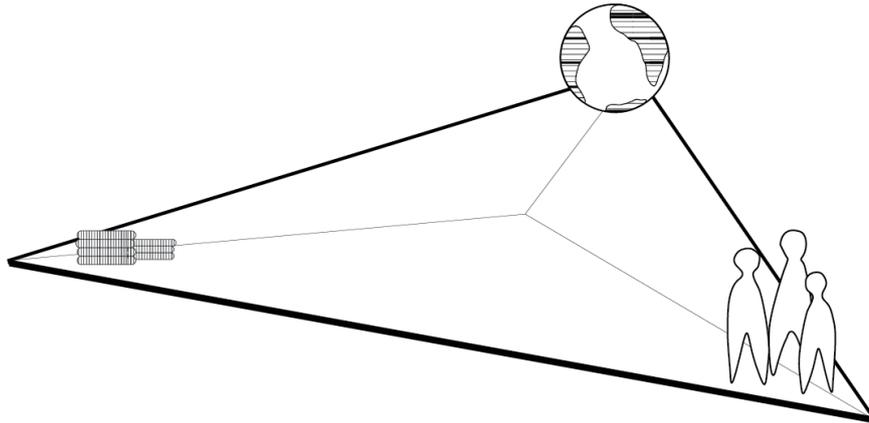
recognise is that societies and individuals across the globe are not equal. Through capitalism, and the economic model of exponential growth, we have used 'nature'; including ecological resources and many individuals that have been considered more 'natural' – indigenous people, women, non-whites (Patel, W. Moore, 2017). Society is not equal, not all humans are reshaping their environments in the same ways, they are not benefitting from this economic growth equally, as they are also not affected by environmental degradation in the same ways (White et al., 2016:49). In modern society, not everyone has gained the right of self-determination or the capabilities to shape their own environments.

The right to self-determination is argued by Amartya Sen and Martha Nussbaum in their concept of the capabilities approach, defined as: 'the capability of a person corresponds to the freedom that a person has to lead one kind of life or another' (Nussbaum and Sen, cited in Murphy, 2014). Capabilities are linked to many factors such as economic prosperity, education, health care and others. Central to the idea of capabilities and self-determination is political liberty, linking the concept of human agency to governance systems. In democracies, people have choice of their political representatives, which values to support, and therefore have the capability to hold representatives accountable, and control the political choices that govern their life (Nussbaum and Sen, cited in Murphy, 2014).

I believe that this capability of political determination in governance of one's life, coupled with education, economic stability and healthcare to be fundamental to human wellbeing, and to the sustainability debate. Through the capabilities of self-determination and freedom of humans without discrimination, human agency can work towards sustainable development. Achieving social equity where all humans have the capability to take active part in the intertwining and shaping of their environments for their wellbeing, which is in turn dependent on the wellbeing on the environment, will bring us a step closer to sustainable landscapes within which humans amongst other beings and forces are embedded.

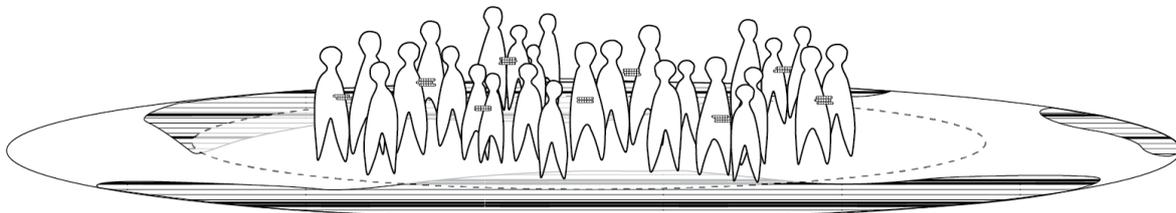
Having said that, and while reaffirming my belief that people can be the best active agents to assess their environments and decide how to interact with them, I also think that a global consensus is necessary. We are already bound by multiple governing systems, some which were socially created over history to better organise societal relations such as governance and economical systems, and the other system of the biosphere within which we are also bound but through a different relationship. It can be argued that these governing systems are all susceptible to change, how much we change them, how we do it, and for what reasons is what can be questioned. I think the idea that a 'weak' sustainability model tries to communicate is that these complex governing systems are all also correlated and affect each other simultaneously.

The economic system affects us, in a sense that it is there in the first place to help organise society and achieve societal wellbeing. The manner in which it does that affects the biosphere, in which as a society we are embedded and metabolise with. Somehow the 3-way 'weak' sustainability diagram removes us as a society from the biosphere, and portrays society, economy, and the environment as equal in agency; independent and correlating. When in fact, as I explain above, I think we are very much a part of nature, interacting with the environment from within, not as an external factor. The economy being a system of our own invention that should help maintain us. This explanation makes the argument of weak sustainability, favouring the economy over the environment incomprehensible to me. Especially when our current economic system is so dependent on resources from the environment which it is depleting for the sake of growth.



Drawing of 'weak' sustainability concept: biosphere, society, and economy as equal in hierarchy

Over time, our development and instrumental view of 'nature' has ignored the essential role that other agencies at play in maintaining us. The biosphere is made up of ecosystems that are reproductive and self-sustaining. Our economic activity is transforming these self-producing ecological systems into decaying landscapes, toxins, and lands with degraded forms of energy with low potential use (Rees, 2003). The ecosphere provides us with a life-support system that we take advantage of both for production and waste disposal. The economic model being followed, which is based on exponential growth, and is dependent on the consumption, thus production of resources that are extracted from the finite, non-growing ecosphere, creates an inevitable incompatibility between the two systems. As Rees explains, the ecosphere is the 'host ecosystem' of the economy, and therefore the latter cannot continue to exceed production by its host system, or the waste assimilation capacity of it. The violation of either condition, and continued growth of the material economy is thus causing the depletion of natural stock (Rees, 2003). Supporters of the weak sustainability model are optimistic that through technology humans have 'achieved mastery over nature' (Rees, 2003), I think this thought is strongly supported by the idea that we are 'other' than nature, and completely external to its realities. So, as we continue with this system, the economy grows, as does social inequality and ecological depletion.



Drawing of 'strong' sustainability concept: society is bound by the biosphere, and economy is a societal tool

'If all societies 'produce' nature at one scale or another, capitalist society has for the first time achieved this feat on a global scale.' (Smith, cited in White et al., 2016:49) In terms of data, we know that up to a half of the land on Earth has been transformed by some human actions (Rees, 2003), where according to the world bank, 'Agricultural land covers more than one-third of the world's land area, with arable land representing less than one-third of agricultural land' (Data.worldbank.org, 2019). Humans have been tampering with their environments since the last Ice age and have also caused extinctions of other species in the past, but what is different now is the unprecedented speed that this destruction is happening at (Patel, W. Moore, 2017). Rees argues that the most unaltered ecosystems of the Earth are inadequate to support the biophysical demands of even a technologically 'primitive' small human group for very long, before they would need time to regenerate (Rees, 2003).

The problem with the transformations happening to the Earth is that they are to serve (some) humans mainly and directly. Ecosystems and diverse habitats are destroyed and replaced with monocultural agricultural lands, and other toxic producing processes which have no place in the biosphere and exceed its carrying capacity for them. In my opinion, what needs to be found is a way to live in a dynamic equilibrium again with our surroundings; instead of creating depleting landscapes, we have to find ways in which to sustain ourselves through ecosystems. If we have the capacity to alter and transform landscapes to this extent, why can't we start creating ecosystems out of them? The irony is that we have all the technology, and our great evolutionary processes but we have not yet managed to use it for the wellbeing of all humans or the environment. 'Such a 'steady-state' implies a dynamic society in which quantitative growth is replaced by qualitative social development and whose rates of resource extraction and pollution are compatible with the rates of resource production and waste assimilation by supporting ecosystems.' (Rees, 2003).

Humans are known to be patch disturbance species; their radius of disturbance, usually due to foraging and similar to other large mammals, far exceeds their central core around which the disturbance is greatest (Rees, 2003). In terms of human made environments, urban landscapes or cities are rapidly expanding, especially in developing countries and as human populations grow (Seto et al., 2011). These are predominantly human transformed and human inhabited areas, which eliminate dominant natural ecosystems, and cause a threat to biodiversity (Beninde et al., 2015). The proportion of the world's population that lives in urban areas is now 55% and set to increase to 68% by 2050 (Un.org, 2018), which means the continuous expansion of cities in a destructive way to ecosystems supporting them, if not planned properly. It is argued by the environmental scientist, Barry Commoner, that growth itself, whether population growth or economic growth, does not necessarily correlate with harm to the environment. 'What happens to the environment depends on *how* growth is achieved' (Commoner, cited in White et al., 2016:75).

Considering cities as urban landscapes, in my view, can change the way we engage within them. Cities are the dynamic, ongoing product of our mutual interaction with nature, or our surrounding environment. Therefore, they are also landscapes that we metabolise and evolve with. Recognising now that they have developed in a way that might be ultimately destructive to the environment, and our wellbeing, we should take agency in reforming them into landscapes that are more inclusive to other species, biodiverse (in their own ways), and functioning as ecosystems within themselves. Urban landscapes can also create certain unique environments which allow a high level of biodiversity to flourish within them the same way they do in natural ecosystems (Beninde et al., 2015). Commoner also argues that in order to achieve living in harmony with the environment, a major redesign of our industrial, agricultural, energy, and transport systems is necessary, in which long term goals are prioritised over short term profit (Commoner, cited in White et al., 2016:76). This change in

dominant social values, coupled with active, inclusive human agency, would in turn reshape our urban environments. It might be that humans have always been patch disturbance species, but at this point in our evolutionary process we have so much knowledge and technology that we have to proactively find a way in which to live in harmony with other ecosystems, at a local and global scale, while maintaining social wellbeing.

These complex systems shaping our reality need complex forms of governance. The way social life and human agency is evolving in a way that is widely affecting and being affected by global forces. This calls for the need of a global consensus which recognises the limits set by other than human agencies; the biosphere, the ecology. Nonetheless, I believe that this global consensus on limits needs to be flexible enough so that it is reinterpreted at a local level. There is no one global model for standards of life, or human wellbeing; our socio-cultures have been shaped differently by the local surrounding environments, and we are a highly adaptable species. Which is why I believe that wellbeing is achieved by the right to self-determination and active human agency, allowing people the capability to choose and shape a comfortable environment for themselves, within the overarching limits of the biosphere. Global and local governance scales should work in both directions, assessing needs and limits at the corresponding scales, in order to streamline defining factors, such as the economic system, for the wellbeing of all. Some small communities that are not in direct contact with global activity can be said to be living in harmony, but they will ultimately be affected by other factors happening at a global level. A balance needs to be found between these scales where a global landscape can be sustainable, in which one society's development does not stagnate other societies' chances of development or wellbeing.

Referring back to the concept of sustainable development, I have tried in this essay to theoretically explain and identify the factors that to me seem most important in defining what the term means and who and what aspects it involves. What I tried to portray is that the situation is viewed differently through different lenses, and also involves a great amount of power at play. The issue of sustainability, which in my view is an inherently anthropocentric one as it centrally rotates around the fact of sustaining humans first, is a very wide, complex topic that involves objective facts, such as the depletion of the biosphere which will eventually affect our livelihood, but also involves a very subjective view of how to find the answers. Morality is an important aspect of it; it is true that humans have caused extinctions in the past, and competition over limited resources exists to a certain extent, but our biggest strength has been our evolutionary intelligence and success, and what differentiates us from other species is our morality. Kropotkin distinguishes between the competition between organisms of the same species for limited resources, and organisms struggling against the environment, often leading to cooperation; which he refers to as 'mutual aid' (Gould, cited in White et al., 2016:27). The advancements of the human species are now also testing the limits of their existence, the path taken can either cause great harm to humans and other species, or change direction for the benefit of most.

To conclude, I would like to place myself within this debate, taking neither an anthropocentric or ecocentric position on the ideas of sustainable development; acknowledging the fact that human wellbeing depends on that of 'nature', and placing humans within it as actively shaping and being shaped by the different agencies involved. Values concerning life and the environment have been categorised as instrumental, intrinsic, and relational (Chan et al., 2016). The Instrumental seeing nature as a tool for human wellbeing and advancement, Intrinsic value seeing nature as having inherent worth regardless of its value to humans, and Relational value which sees the relationship between humans and others (humans, non-human beings and nature) as most meaningful. According to the relational view, landscapes, and other beings are not independent from humans, but rather

intertwined with them and are of importance to human wellbeing not only as a resource but also because socio-cultural identity is derived from interacting with them, we therefore have a relational, moral responsibility towards them. (Chan et al., 2016). An instrumental view of nature, societies and living things will ultimately only benefit a few, and does not aspire for the wellbeing of all. I take the stance of the relational value to life, and therefore believe that sustainable development would acknowledge the necessity of the wellbeing of humans, other beings, and the environment.

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