

SUSTAINABILITY, CULTURE AND PERSONAL RESPONSIBILITY

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“When white missionaries brought the bible to Africa, they had the bible and we had the land”. They said: “let us pray”. So we closed our eyes and prayed ... And when we opened our eyes, we had the bible and they had the land ...”

You can surrender your most valuable asset without even noticing it!

Desmond Tutu

The conclusion of the 2011 Nobel meeting in Stockholm on Sustainability (REF) was unambiguous: We need a change in collective mindset to achieve our vision and goal. As an anthropologist, therefore I ask myself: "What might be the barriers to such a change?"

About fifteen years ago I visited the highlands of Papua New Guinea as a guest to my wife, who was doing research there. In these parts, because the climate is wet and cold at 2000+ m.a.s.l., people's lives focus on a fire that is maintained at all times in a central hearth-pit. It serves to heat the dwelling and to cook.

In one village, we observed that the inhabitants had devised a simple and very effective tool to help in cooking: a piece of bamboo had been bent over the fire to create a pair of pincers much like one finds in our culture to serve salad. Whenever the food (mainly sweet potato and taro) was cooked, they took the tubers out of the fire with this tool.

Surprisingly, in a neighboring village, not more than a day's walk distant, they did not have such a tool, and thus they burnt their fingers every time they had to fetch food from the fire. As the people in both villages interact regularly, I asked myself: "Why don't the people in the second village adopt the very efficient and easy-to-make tool invented in the first?"

I think the answer lies in the fact that a cultural tradition, which we commonly define in our western scientific culture by what is included in it (tools, know-how, institutions, etc.), is actually defined not by its content, but by the things the people concerned have never thought about - their 'blind spots', the questions they have never asked themselves, and to which they

therefore have not devised any answers. The boundaries of the known are inherently the things not known because never seen as interesting or relevant.

Why is that important in the sustainability debate? First of all because it explains to a large extent why it has proven impossible to deal with GHG emissions by means of a worldwide, 'top-down' treaty such as the Kyoto treaty or the UNFCCC. Whereas it is possible for nations in a phase of plenty to agree on an ambitious goal, once circumstances changed (due to the 2008 financial crisis), the implementation of those promises became much more problematic because people's perceptions of the challenges, their means and their economic structure differed too much. Although the challenge is global, finding potential solutions has to happen locally (or, as the case may be, regionally or nationally).

But I think its importance is actually much greater in a different way. As part of being human, we deal with information overload by creating routines, habits, customs, etc. Once we have set these up, we generally do not think about them much any more. We even come to think of them as 'natural', at least in much of the west, and hence to accept them as 'the best way to do things' or at least 'the least bad way', without really considering any alternatives.

It seems to me that that fact has severely limited the range of options we consider in the sustainability debate to essentially incremental ones. We want to keep the convenience of our current energy delivery, but are prepared to (a) use less if, and only if, the result in terms of comfort, mobility, etc. is the same (cf. fuel economy for cars and housing), or (b) generate different forms of energy provided they can be fed into the existing system (wind, solar, biofuels, etc.).

I would argue that we have to plan our future differently - by first asking the question 'What kind of future do we actually want?' as a 'think-out-of-the-box-challenge', and then designing a roadmap that may get us there. This needs - again - to be done locally, regionally or nationally. Calling for 'innovation' is not enough if we do not first consider where such innovation should lead us. Let us remind ourselves that the last 250 years of unbridled innovation in every which direction have led to our supply-driven materialist and consumerist innovation culture, and to our current sustainability challenges. If we want to do better, we must learn to focus and to some extent steer invention and innovation.

Moreover, we hardly know enough about the dynamics that drive the processes of invention and innovation, mainly because these have to do with the *emergence* of new ideas (objects, routines, institutions), and emergence is not very easy to study in a *reductionist, ex-post scientific approach* that focuses on proving explanations of phenomena, and thus inevitably on linking their present with their past ('*learning from the past*') by means of a cause-and-effect narrative. As a result, we know quite a bit about the conditions under which inventions and innovations flourish, and the ways

they affect the economy, but have much less scientific, procedural knowledge that could help us focus or steer invention and innovation effectively.

But if we are to plan our future, we must adopt an 'ex ante' perspective, linking *learning from* the past to *learning about* the present, but also *learning for the future*. In the process, we must come to understand how invention and innovation dynamics work, and how they affect the outcome.

A major barrier to asking 'What kind of future do we want?' seems to be that we often view our current predicament as the result of a quasi-inevitable 'evolution' towards 'progress'. That is a very deep and ancient tradition in our western cultures, but it is also a needless and distorting simplification of the reality of our history. On the contrary, at many times in our history, there have been moments in which our societies' trajectory was determined by either choice (in the sense of 'systemic choice') or the actions of an individual or small group of individuals. The situation in Europe around 1750-1800 is a case in point, when revolutions (France), near-revolutions (Germany) and war (Europe and North America) show that the structure of society at the time was approaching a 'tipping point'. Major structural changes as a result of these events, but in particular the harnessing of fossil energy by means of the steam engine, and the reorganization of Europe's colonial empires from trade empires to production and marketing empires gave European society a new lease of life. That said, things could have gone a different way, and European societies could have disintegrated. Choice is important, whether systemic, local or individual!

The lesson is that if we are, as I think, at a similar point in our history, facing a tipping point, we must not succumb to an incremental (or even a passive) perspective, but we must actively stimulate choice. That is where Desmond Tutu's quote at the beginning of this contribution is so valuable: we should not just pray, but exert our ingenuity and will.

Over the past century or so, our western societies lost the most precious gift of all - our political will - without realizing it, to the unchecked instrumentation of science by industry and government, for purposes of innovation and/or governance. In this process, science was a willing partner and became increasingly dependent on both for funding,

In certain regions and certain domains, that has led to a loss of trust in science and scientists, which are either seen as too distant from the concerns of civil society, or too much under the influence (if not control) of government and industry, and defending interests that are not those of the wider population. The loss of appreciation for, and trust in science also shows in some countries (such as the US and, to a lesser degree, the UK and European countries) as a reduction in funding for science and/or acceptance of scientific ideas.

As a result of that development, it seems to me that we must review the relationship between science and society, make it more open and transparent, be more realistic in the expectations we raise and be more

aware of the potential unintended consequences of our actions. We must listen more, think more broadly in terms of alternatives rather than narrow causal explanations, and use what remains of society's trust in science to influence the debate, as well as rebuild that trust where it has been eroded.

And that is where the lesson from Papua New Guinea is, I think, particularly relevant for social scientists working on sustainability. Collectively, our main limitations are (passively) self-imposed constraints on our inventiveness and our organizational talents, and as social scientists, we are responsible for understanding their roots and consequences, and suggesting how we might more effectively transcend these limitations. Part of that effort should be concerned with confronting societies and individuals with the fact that they *can* make a difference, and should do so by assuming responsibility for their choices. Another part of the effort should be concerned with finding ways to 'think outside the box'. Let us look at both in turn.

In politics, the sustainability debate has suffered from the fact that it is a debate about burden-sharing ('Who pays for the global cleanup?'), which does not really inspire anyone, and has caused the deadlock between the developed and developing nations about funding GHG mitigation. But in fact it is not at all about that, but about opportunity-sharing: who can best and quickest develop innovations (material, procedural, institutional and social) that do the job, and will therefore become desirable to others. Viewed as such, the debate shifts towards asserting individual and collective will, in order to achieve success.

In economics, it has suffered from the fact that much of the macro-economics community lacks a conceptual and mathematical tool to conceive of discontinuous change. The dynamic equilibrium models that link supply and demand are traditionally formulated in terms of differential equations and therefore focus on marginal changes. One potential way to deal with this is to develop a mathematics of discontinuous change, in which supply and demand are not balanced, and the market does not always work best. This would open the way for a less 'productivity' and 'efficiency'-based perspective on economics that could include value dimensions other than cost and price.

In more general terms, beyond those two disciplines that dominate the structure of our lives, there is a more general social and educational issue. When young children come into the education system, the first two goals that their teachers have are socialization and development of their intellectual toolkit. The easy (but not the best) way to do both is to present them with 'truths' in the form of narratives about cause and effect. These serve to give them tools for thought, but also to give them a shared language in which they can communicate. However, what they do not do is train them in taking responsibility⁷ for their choices by presenting them at every stage with alternatives, making them think about the consequences of these different options, and hence training them to take responsibility for their actions. Not being an education specialist, I will not speculate about the

best age at which to do this, but I do think we will need to integrate this element in children's education. That has been the reason for introducing problem-based learning in undergraduate (university) teaching in ASU's School of Sustainability (as well as in the Universities of Maastricht and Aalborg in Europe, and in many medical faculties).

Finally, I would argue that it would greatly help if we complemented working on a national, regional or local scale by working on a global scale. Many of these issues are global, even if the solutions to be found are local or regional. Nevertheless, knowing the global context will help us deal better with the potential unintended consequences of our actions.
