

Guidlines – sensorveiledning – SGO 3200 V-24

Question 1

Transitions can be studied using the Multi-Level-Perspective (MLP).

- What are the key elements of the MLP?
- How will transitions typically evolve in time according to the MLP? Use example(s).
- What are the weaknesses of the MLP?

Geels 2019 is key to answer this. The basic structure of MLP with niche-paradigm/socio-technical system-landscape is a point of departure. The phase 1 to 4, starting with experimentation, stabilization, diffusion/disruption and ending with institutionalization/anchoring should be included to have a C. The different transformation pathways might be included by very good students.

The weaknesses of MLP are summed up by Geels (2019).

- MLP based analysis do not tell us HOW much greener a new system is
- Where are the actors, the people?
- Confusion about levels - regime at one level is niche at another level
- What about power and vested interests?
- Does not give attention to labour, inequality, etc

Question 2

Wind energy is an important part of the ongoing energy transition in Europe. Denmark has been a pioneer in wind energy.

- Describe how wind energy emerged in Denmark from the 1970s and onwards.

The construction of windmills in Norway have led to destruction of land and ways of living in rural areas.

- What is a “Green sacrifice zone”?
- What implications can such zones have for indigenous people? Use example(s) from Norway, or another country.

Gard & Karnøe 2012 outlines the emergence of wind power in Denmark. Key words:

- Oil crises 1973, lack of energy, the carpenter Risager, farmers in need of secure energy supply as early users, grid connection, Jutland cluster, action network, innovation

- Later – heterogenous resources including producers, consultants, government, insurance companies, utilities

Green sacrifice zones:

From Karam, A. and Shokrgozar, S (2023): “green grabbing has led to social fragmentation and ecological degradation, resulting in what we argue are sacrifice zones, which consist of what Reinart ([Citation2018](#), 598) describes as “forms of environmental violence, degradation and destruction that operate spatially, at the level of landscape and regions.” Specifically, they can be understood as green sacrifice zones (GSZs), whereby under the guise of climate mitigation, the implementation of lower carbon infrastructures results in negative cost shifts to local and indigenous communities in which colonial values of growth and whiteness are prioritized (Zografos & Robbins [Citation2020](#)).”

Question 3

Positive social tipping points have emerged as an important discussion within social science and policy discussions.

- How can positive social tipping points be defined?
- How can innovation contribute to positive social tipping? Use example(s)
- How can states trigger tipping dynamics? Use example(s).

“A tipping point is where a small intervention leads to large and long-term consequences for the evolution of a complex system, profoundly altering its mode of operation (Gladwell, 2000; Lenton et al., 2008). Such highly non-linear response is usually self-propelling and hard to reverse. [...]. Crucial to their occurrence is the presence of strongly reinforcing positive feedback within a system, which can amplify a small initial change and turn it into a large consequence.”
Lenton et al. 2022

“A point or threshold within a social system at which a small quantitative change triggers a non-linear/abrupt change process that is driven by a (self-reinforcing) positive feedback mechanism and inevitably leads to a qualitatively different state of the social system that is often irreversible. The new

system state is characterized by a different set of stabilizing positive and negative feedbacks.”
(Milkoreit et al. 2018)

How can innovation contribute to positive social tipping? Use example(s).

The idea here is that students use some of the writings on innovation on the reading list to answer this question. The paper by Tirca et al distinguishes between traditional, social, green and sustainable innovations. Sustainable innovations can contribute to positive social tipping. Examples from the teaching includes electric cars, wind energy, solar energy, but many other examples are of course possible. Most innovations do carry with them some problematic aspects however, and to get a good mark (B,A), students should document they are aware of the problematic aspects related to the examples they use.

- How can states trigger tipping dynamics? Use example(s).

The book chapter by Langhelle et al is to the point here. It is demonstrated that in some cases states have speeded up more sustainable solutions such as the phasing out of coal in Ontario, Canada and electric cars in Norway. Langhelle is not talking about tipping dynamics, so students should reflect on how Langhelle et al can be used as a case of state supported tipping dynamics. State supported innovation policy with a direction towards a sustainable transition can clearly be part of an answer.

Question 4

There is an increasing awareness concerning the dark side of innovation.

- Describe the dimensions according to which innovations may become harmful

From Coad et al on the reading list:

Issues of scale: explorations by lead users vs the dependence of mass consumers

Small problems due to one-off explorations are generally accepted to be benign and acceptable. For example, small scale pollution from a pioneering scientific experiment is probably acceptable to most people. But if this scales up through the everyday habits of millions of consumers worldwide, harmful effects can accumulate and interact, and new problems can appear.

- **End of product life considerations**

- **Features vs bugs: ‘unintended’ versus ‘unanticipated’ consequences**

Innovations can be intentionally harmful, such as for example the atomic bomb, automatic rifles, electric chairs, or the ‘Spanish donkey.’ These innovations clearly cause great harm by creating new opportunities for individuals to more effectively carry out harmful intentions.

- **Innovation to deceive or to escape regulation**

- **Sharing the upsides and downsides of innovation**

- Another issue is related to the ‘North-South’ perspective. Rich countries develop new innovations that are applied across the world, then the rich countries notice that these innovations are toxic or harmful, and either move on to better alternatives or develop infrastructures to deal with the waste or simply export their waste (e.g. electronic waste). Poor countries, on the other hand, may not have the institutional structures in place to enable them to contain the problems.

- What types of harm might result from innovation? Use example(s).

Categories:

- Public health risks
- Environmental degradation
- Harm to society
- Harm to the economy