

▲▲▲ Taking the Fools Leap Towards Sustainability

*...socio-cultural
perspectives to
navigate future social-
cyber-physical energy
systems – case
REDISET*



HELLO!



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It is argued that sustainable behavior is a question of self-control, as it usually means changing a habit. Research suggests that people with a fresh start mindset (the fool archetype) are more inclined to change their behavioral patterns. The downside to this finding is, that most people don't seem to naturally exhibit this mindset. Still, today's wicked challenges require fresh perspectives and innovative solutions, we need many different minds to work together. REDISSET is a new Nordic project which focuses on cyber security and resilience of social-cyber-physical energy systems, it is also an interdisciplinary research group, where both gender equality and cultural diversity have been taken into account. **Will this group manage to follow the style of the fool – what are the tools?**



Doom Doom Boom ...

Global externalities of local actions – we don't live in a vacuum, disaster somewhere else will land into our lives sooner or later

HUMANITY IS ALMOST CERTAINLY DOOMED, SCIENTISTS SAY

"THE PROBLEM IS COMPOUNDED BY IGNORANCE AND SHORT-TERM SELF-INTEREST..."

World War III

The state of the planet is much worse than most people understand and that humans face a grim and "ghastly future" unless extraordinary action is taken soon.

- ▶ A loss of biodiversity and accelerating climate change in the coming decades coupled with ignorance and inaction is threatening the survival of all species, including our very own, according to the experts from institutions including Stanford University, UCLA, and Flinders University.

How sustainable will our recovery be?

According to new OECD data, OECD countries and key partner economies have so far allocated USD 336 billion to environmentally positive measures within their

national effects needed to address the economy?

% of the total sums so far allocated to ensure that 83% of this funding either does not worsen, reverses progress on some of

the recovery rhetoric with the reality of

If we are serious about transitioning towards a low-carbon economy, we are going to have to do better than this.

Research background: Sustainability Transitions



- ▶ Energy transitions are driven by the need and availability of energy sources, and **today** they also always aim towards more renewable and sustainable solutions. (Sovacool 2016)
- ▶ A central aim of sustainability transitions research is to conceptualize and explain how **radical changes** can occur in the way that societal functions are fulfilled. The unit of analysis is thus primarily situated at the 'meso'-level of socio-technical systems. (Köhler et al. 2019)
- ▶ Differs from long-standing sustainability debates at the 'macro'-level (e.g. changing the nature of capitalism or nature-society interactions) or the 'micro'-level (e.g. changing individual choices, attitudes and motivations). (Köhler et al. 2019)
- ▶ Transitions involve various **aspects of power**. Broadly speaking, power can be characterized as the (in)capacity of actors to mobilize resources and institutions to achieve a goal. (Avelino 2017)



Socio-economic and technical perspective on energy system transformation - Visualization of transformative mission port company (Roel van Raak, DRIFT, presentation in Vaasa, 15.11.2017)



Research background: Marketing Systems & Energy Behavior



- ▶ Marketing systems theory proposes that markets as systems can describe social evolution of a collective. Their origin lies in the **trade imperative (exchange)**, where individual actors realize that gains are possible through specialization. (Layton 2011)
- ▶ Marketing systems are “multi-level, path dependent, dynamic systems, embedded within a social matrix, and interacting with institutional and knowledge environment”. (Layton 2011)
- ▶ **The embeddedness of established technologies into user practices, business models, value chains, regulations, and institutional as well as political structures creates a situation where changes are rather incremental than radical.**



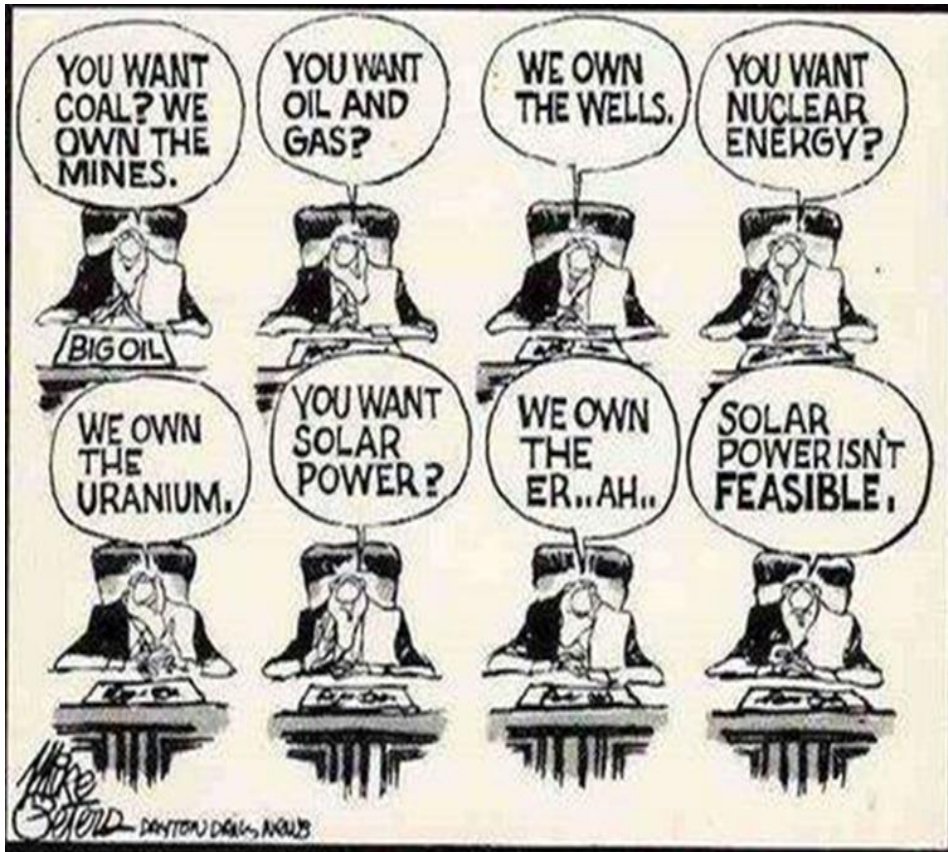
Research background: Dominant Social Paradigm - DSP



- ▶ The freedom of choice and responsibility for it is said to exist within the context of the **DSP, which refers to the collection of norms, beliefs, values, habits, and so on that form the world view most commonly held within a culture.** (Kilbourne et al., 2009)
- ▶ Consumption regarded as a socially constructed process considers that people are socialized into consumption systems and therefore, it is hard to grasp a holistic and sophisticated understanding of sustainability and make coherent, consistent decisions from an external point of view.



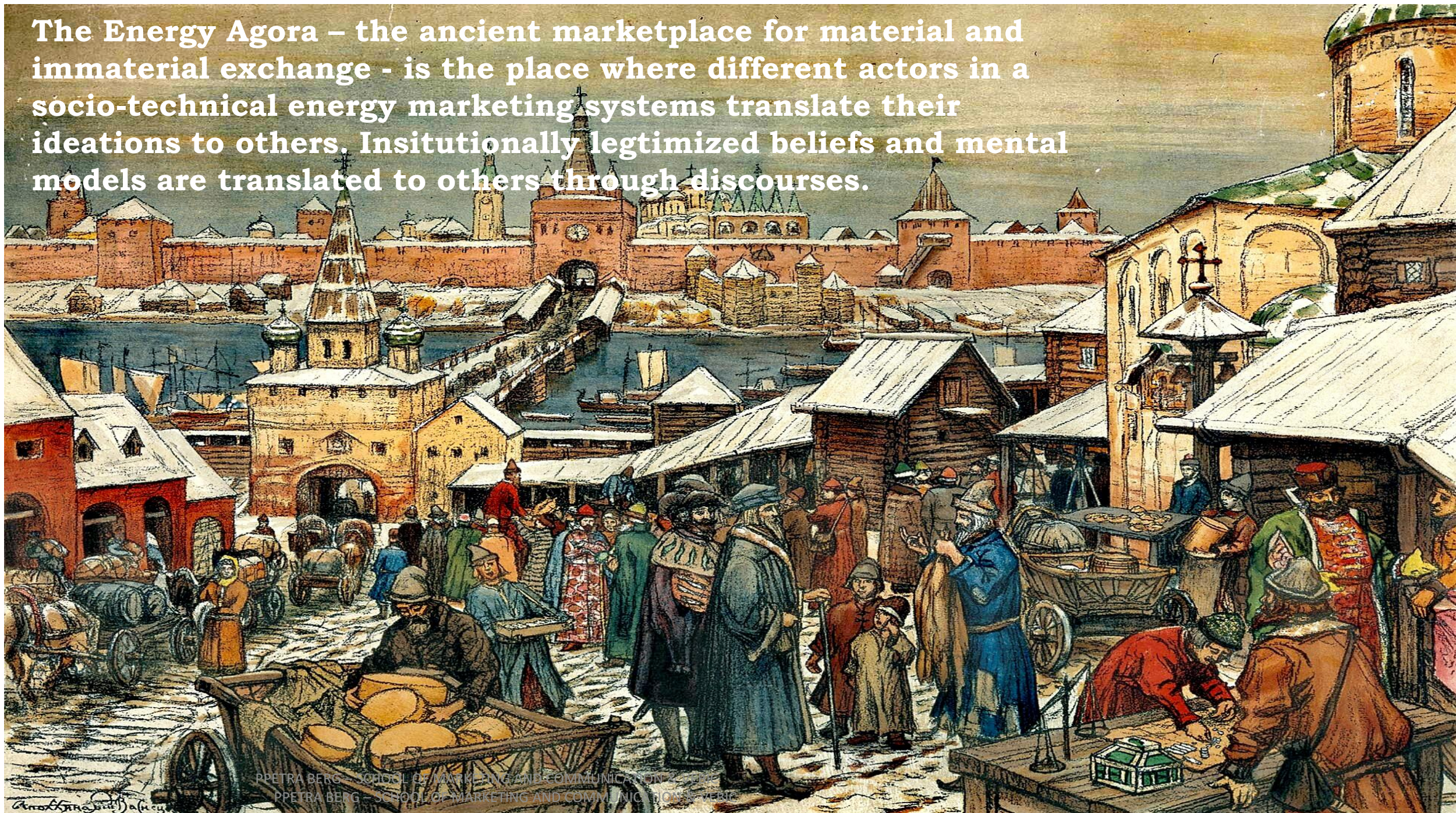
Path Dependence as Mental Models, Myths and the Energy Agora



Marketing Systems consists of technological solutions, the business models tied to them, the raw materials needed as well as the actors: users, producers and decision makers and their collective agreements – institutional structures.

- ▶ Actors in different roles affect the social, ecological and economic sustainability of the system
- ▶ Path dependence and lock-ins are inherent to socio-technical marketing systems
- ▶ Lock-In of mental models: Thought models that lock us into mindsets and behaviors that create inertia to change e.g. path dependence
- ▶ Myths are stories about how things are – “the reality” – they maintain a certain belief systems and follow collectively agreed upon paths

The Energy Agora – the ancient marketplace for material and immaterial exchange - is the place where different actors in a socio-technical energy marketing systems translate their ideations to others. Institutionally legitimized beliefs and mental models are translated to others through discourses.



What kinds of myths can be found in the Finnish energy agora?

Rock Solid

Big Brother

Smart & Flexible

Rural Resilience

Global Village



Traditional

In Transition

Climate
Emergency

Approaching the different levels of roles as ideas translated through discourses we find similar mental models. Three energy realities and the plots they follow; the rational energy myths circulating in the Finnish energy agora. (Berg 2021)

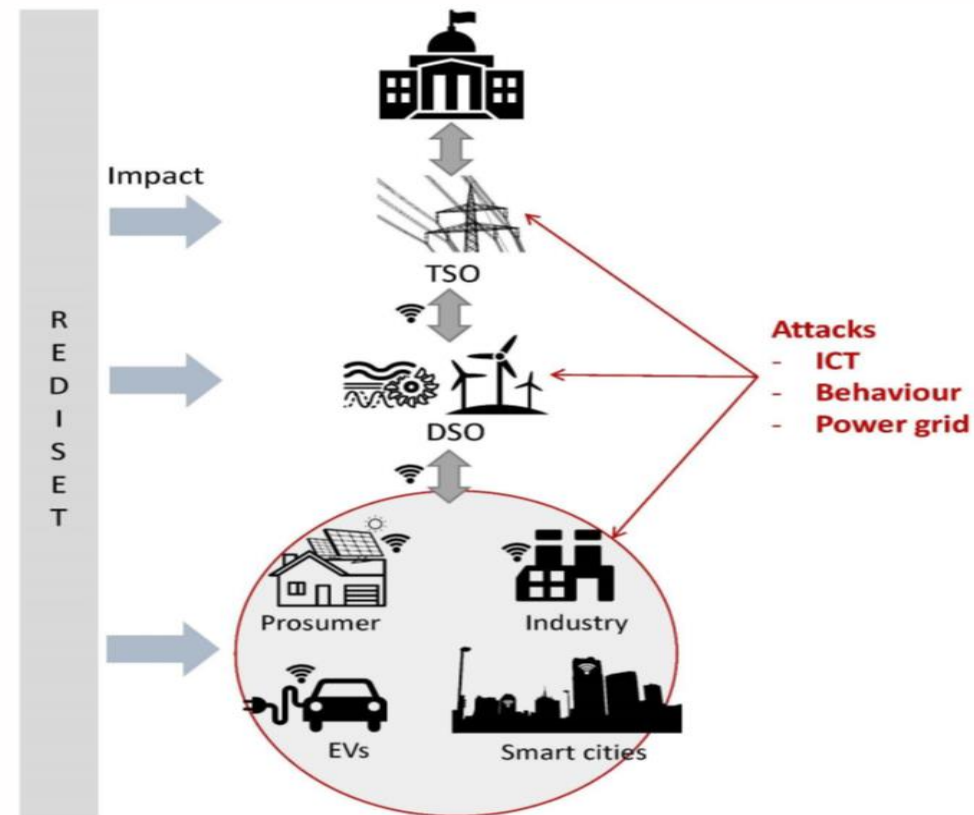


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REDISET - Resilient Digital Sustainable Energy Transition



- ▶ Inter-Nordic collaboration with partners from Finland, Sweden and Norway. Aim to provide social-cyber-technical knowledge to support the sustainable rollout of a future, digital electricity system. Specific focus on providing more understanding of the variables and threats to the Nordic energy system to support the transmission system operators in constructing a secure and resilient future energy system.



Gender Balance and Cultural Diversity in Interdisciplinary Research Group(s) – Case REDISET



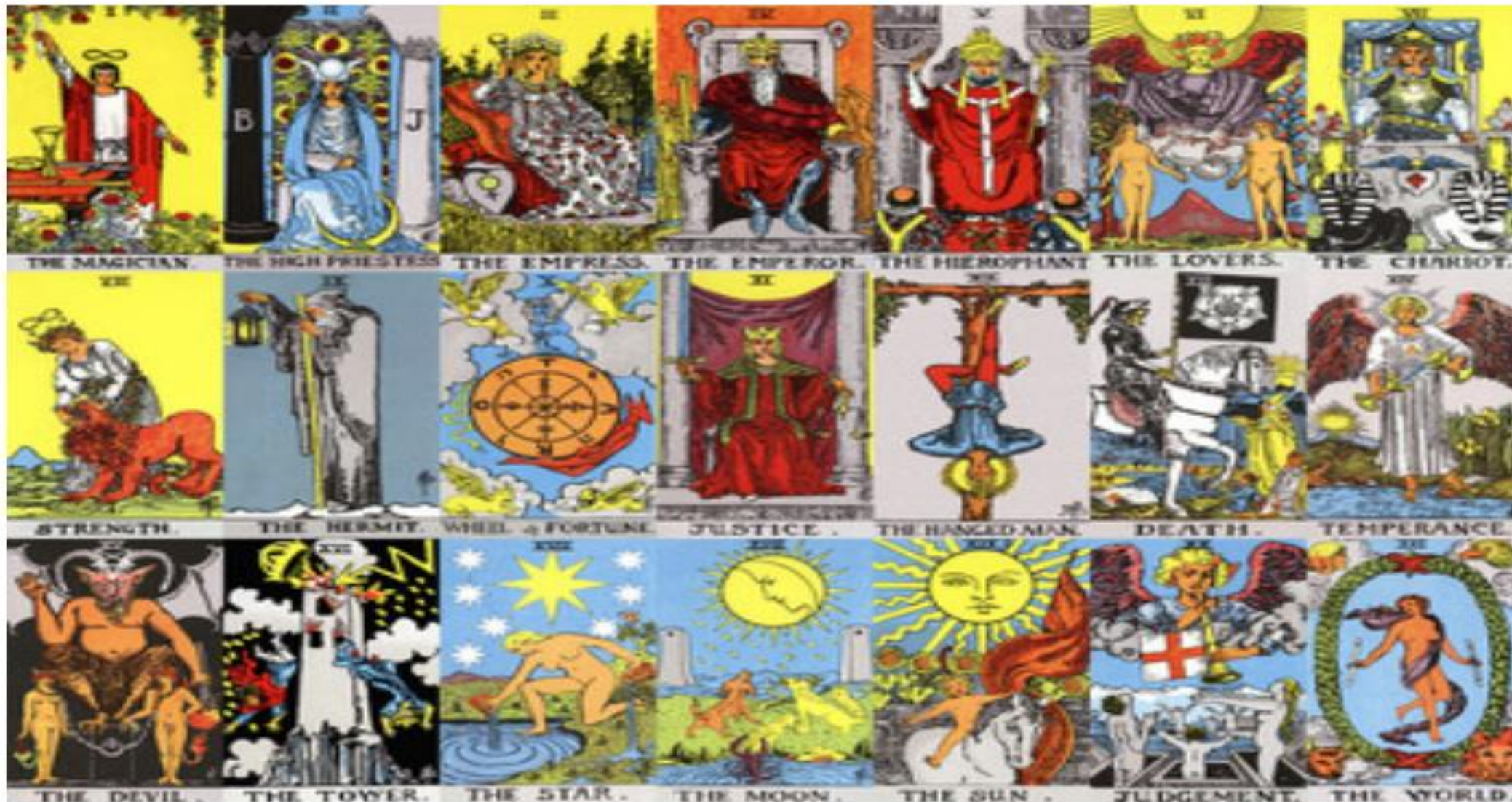
► Social-
Cyber-
Physical
Energy
Systems

So... Who is the Fool?

- ▶ One of the 78 cards in a tarot deck and one of the 22 Major Arcana cards, usually numbered as 0 OR 22.
- ▶ Beginning a new path
- ▶ The Fool - **The Infinite Possibility of Chaos – the Leap of Faith**
- ▶ Represents new potential, the chaos before actuality, new beginnings, innocence and naivety
- ▶ Jungian psychology, archetypes, symbology, mythologies and myths... (Raider Wait Deck)



The Rest of the Major Arcana



What can we learn from the Fool?

▲▲▲
"Theoretical considerations of cause and effect often look pale and dusty in comparison to the result of chance" (Carl Jung).

- ▶ Zero point
- ▶ What do you take along, what will you leave behind?
- ▶ Unlocking mental models – am i stuck in a paradigm?
- ▶ Look at your "roots" – family, education, interests – what are your unquestioned truths about life?
- ▶ Liminal spaces – **the edge** - uncomfortable – messy – dynamic!



Living on the Edge... Learning from Nature and Permaculture



- ▶ "Edges are where things happen – where a forest meets a prairie or a river flows into the sea, or at nearly any other boundary between two ecosystems is a cauldron of biodiversity... the edge is richer than what lies on either side. Any fisherman knows it. He doesn't catch his lure into the center of the lake, but towards the shoreline, where the fish gather to feed on the flourishing life in the swallows" (Hemenway 2009 pp. 45)
- ▶ So if we want to boost the biodiversity in our yards, we should optimize edge – the intersection of two environments – is the most diverse place in a system and is where energy and materials accumulate or are translated (Hemenway 2009 pp. 7)



Thank you!



References



- ▶ Berg, P. (2021). <http://urn.fi/URN:ISBN:978-952-476-949-5>
- ▶ Hemenway, T. (2009). *Gaia's Garden – A Guide to Home-Scale Permaculture*. 2nd Edition. Chelsea Green Publishing. White River Junction, Vermont.
- ▶ Avelino, F. (2017). Power in sustainability transitions: Analysing power and (dis) empowerment in transformative change towards sustainability. *Environmental Policy and Governance*, 27(6), 505-520.
- ▶ Kilbourne, W.E., Dorsch, M.J., McDonagh, P., Urien, B., Prothero, A., Grünhagen, M., Polonsky, M.J., Marshall, D., Foley, J. & Bradshaw, A. (2009). The Institutional Foundations of Materialism in Western Societies – A Conceptualization and Empirical Test. *Journal of Macromarketing*, 29(3), 259-278.
- ▶ Köhler, J., Geels, F. W., Kern, F., Markard, J., Onsongo, E., Wieczorek, A., ... & Wells, P. (2019). An agenda for sustainability transitions research: State of the art and future directions. *Environmental innovation and societal transitions*, 31, 1-32.
- ▶ Layton, R. A. (2011). Marketing: is management all there is? *Journal of Historical Research in Marketing*, 3(2), 194-213.
- ▶ Sovacool, B. K. (2016). How long will it take? Conceptualizing the temporal dynamics of energy transitions. *Energy Research & Social Science*, 13, 202-215.

