



Metatheoretical Perspectives on Sustainability Journeys: Evolutionary, Relational and Intertemporal

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Research Question:

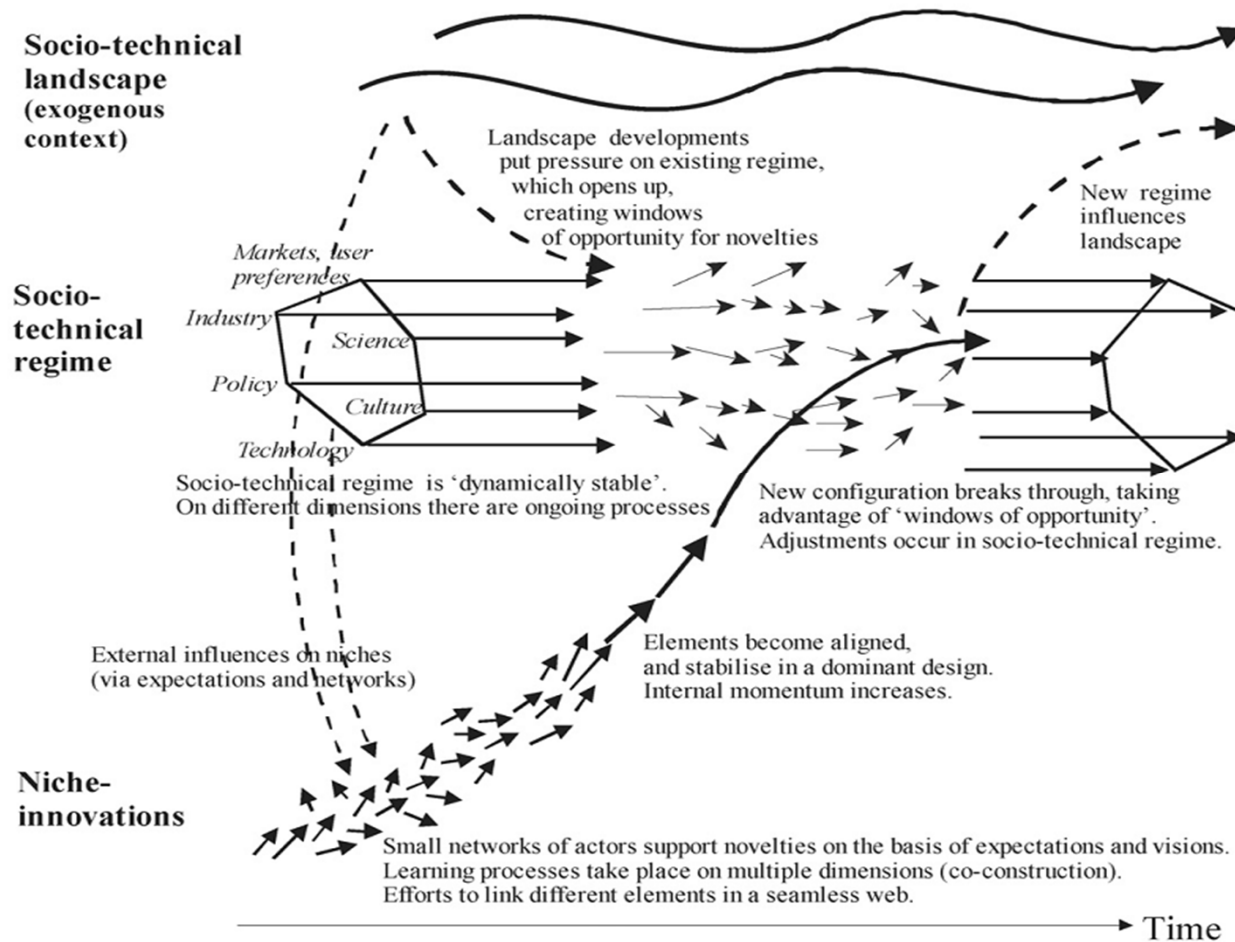
How do sustainability
journeys unfold?

Depends upon...

... what we mean by sustainability

- One definition is “meet[ing] the needs of the present generation without compromising the ability of future generations to meet their needs” (WCED, 1987: 43).
- This definition implies
 - Evolutionary shifts in selection environments
 - Relational shifts in meaning of externalities
 - Intertemporal shifts in going “back to the future”

Evolutionary



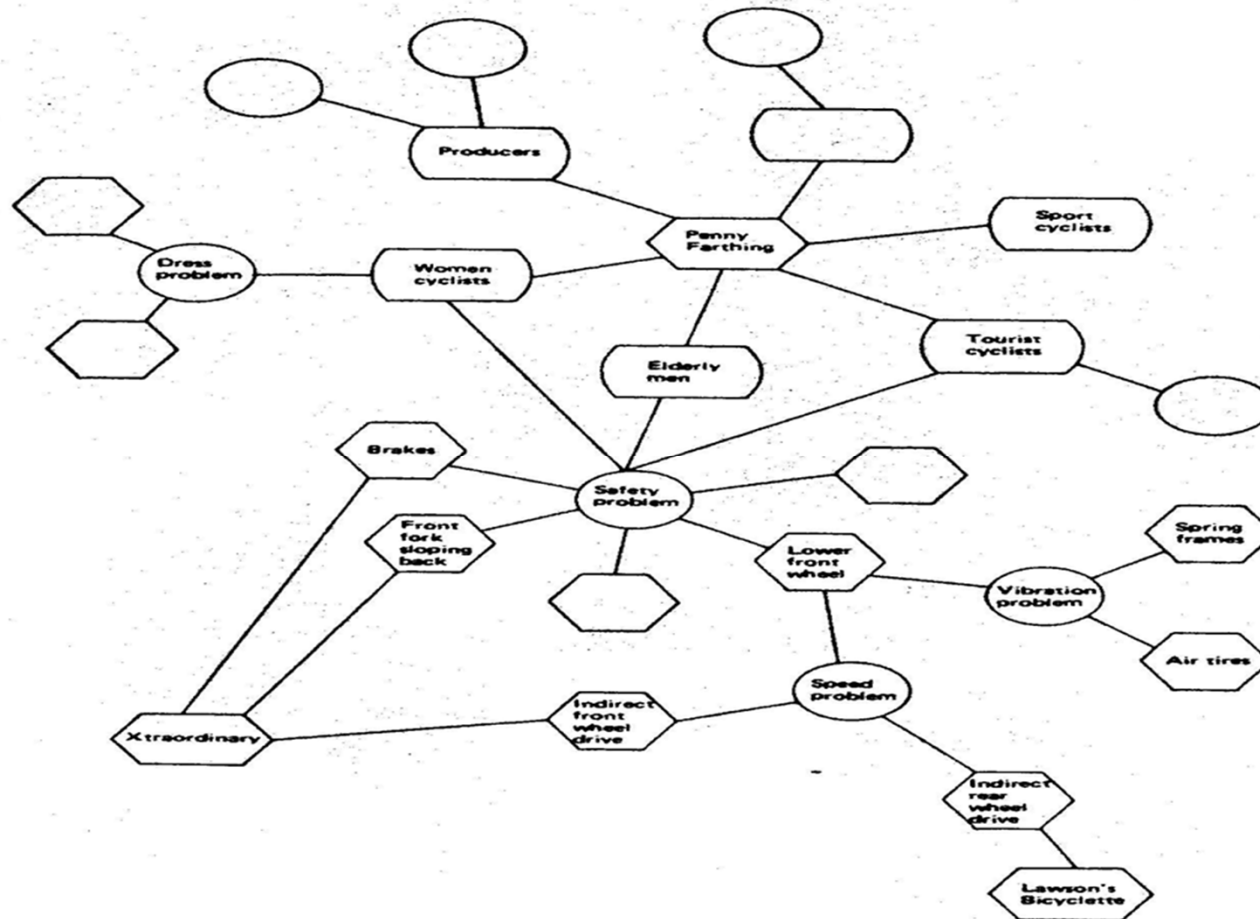
The transition from one sociotechnical regime to another as a consequence of exogenous niche innovations and landscape changes (Geels & Schot, 2007).

EV Example

“No one has yet presented a convincing argument that the invariable association of the gasoline automobile with the creative automotive engineer-entrepreneur was due to anything other than the inherently superior technological feasibility of the internal combusting engine over the steam and electric power for the motorcar at that time.”

-- Flink (1970: 307)

Relational

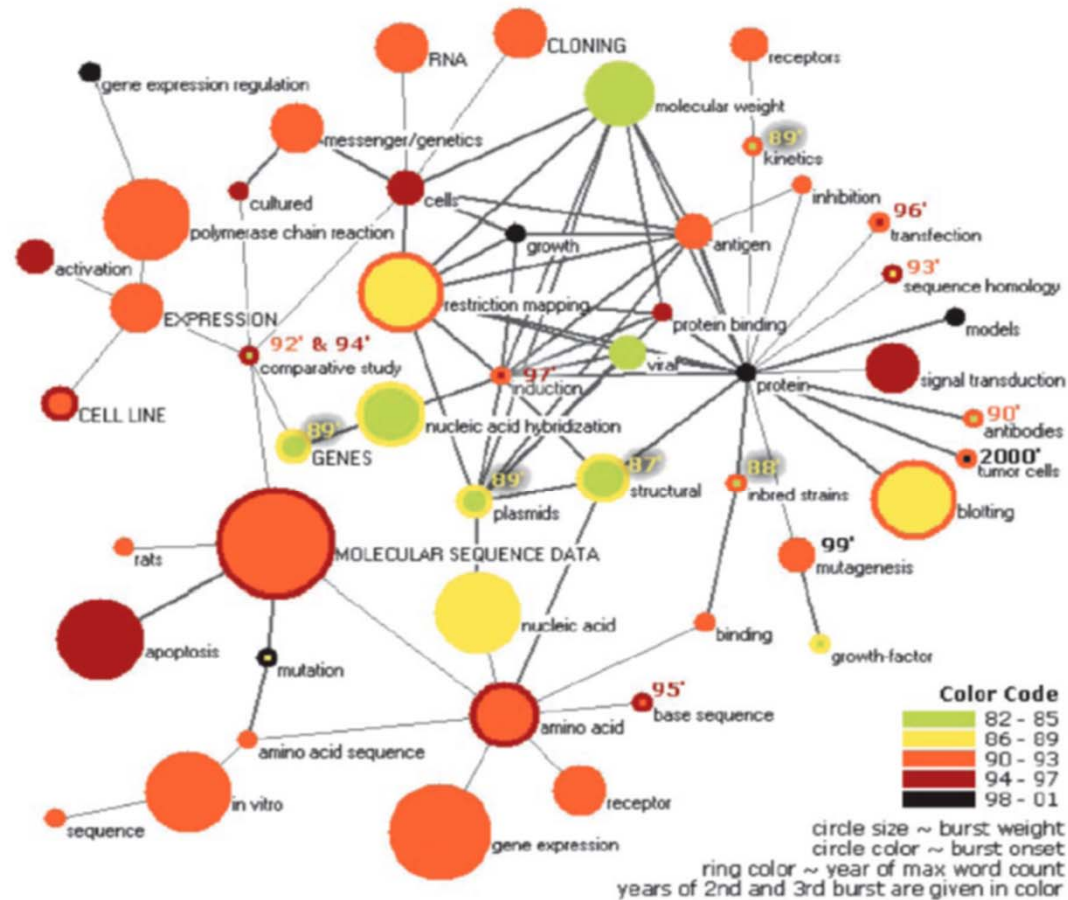


The emergence and transformation of the bicycle through the constitutive entanglement of the social and the material (Pinch & Bijker, 1987).

EV Example

CARB granted automakers credit for partial-zero emission vehicles (P-ZEV), such as hybrid cars. But the industry responded by using the relaxation of the rules to challenge the entire regulation, arguing that using a vehicle's fuel economy to determine if it qualified as a P-ZEV violated federal law barring states from regulating fuel economy in any way. The court agreed, and a preliminary injunction was issued against CARB.

Intertemporal



Co-word space of the top 50 highly frequent and bursty words used in the top 10% most highly cited PNAS publications in 1982–2001.

A temporally emplotted diagram of the research in the human genome project (Mane and Börner, 2004).

EV Example

GM has gone back to the future by re-starting its EV program. Reflecting on the decision to pull the plug on EV, Rick Wagoner, former CEO of GM, stated that “axing the EV1 electric-car program” was the worst decision of his tenure (Green, 2006). Echoing these sentiments, Larry Burns, GM’s head of research and development claimed, “If we could turn back the hands of time, we could have had the Chevrolet Volt 10 years earlier” (Naughton, 2007).

Facets of sustainability	Perspective	Core mechanism	Implications for policy	Implications for strategy	Implications for research
Shifts in landscapes	Evolutionary	Selection	Protected niches	Dynamic capabilities as reconfiguring resources	Follow shifts from one sociotechnical regime to another
Reconfiguration of emergent networks	Relational	Translation	Facilitating “hybrid forums”	Dynamic capabilities as framing and de-framing	Follow actors and categories in-the-making
Diachronic tensions	Intertemporal	Distentio	Setting the stage for coordinating activities in the “thick of time”	Dynamic capabilities as ability to re-narrate	Follow temporal agency