

# Towards a framework of regional panarchy:

*understanding histories of  
sustainability transitions*

1. Sustainability isn't the 'desired future' but the 'messy past'
2. Panarchy and cycles
3. Regional panarchy

**GIST Hub**

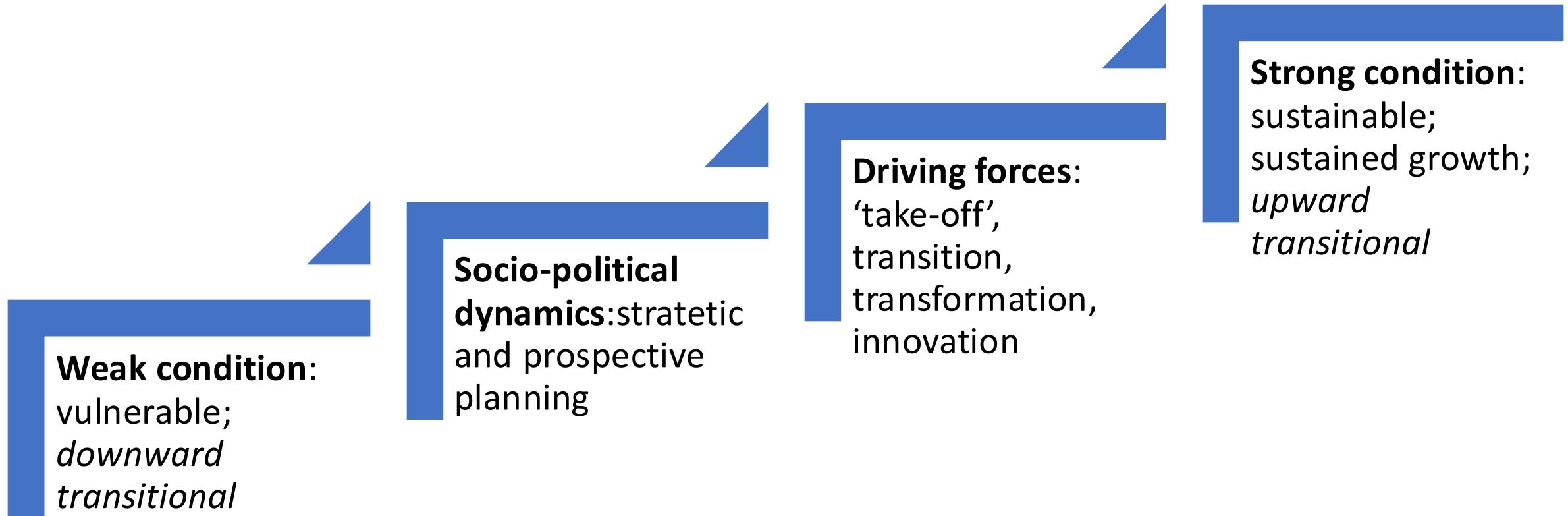
**28 Oct 2025**

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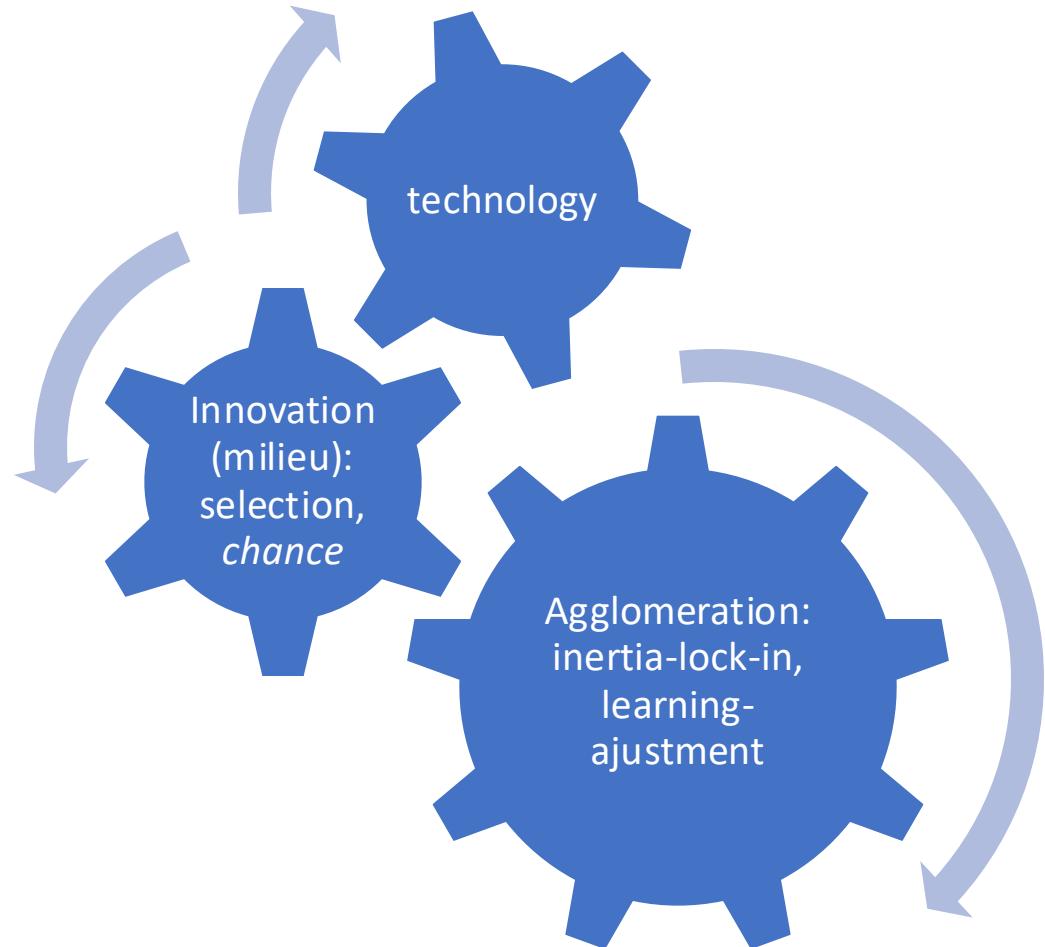


The 'regional tradition': growth, prospective planning and sustainability transitions

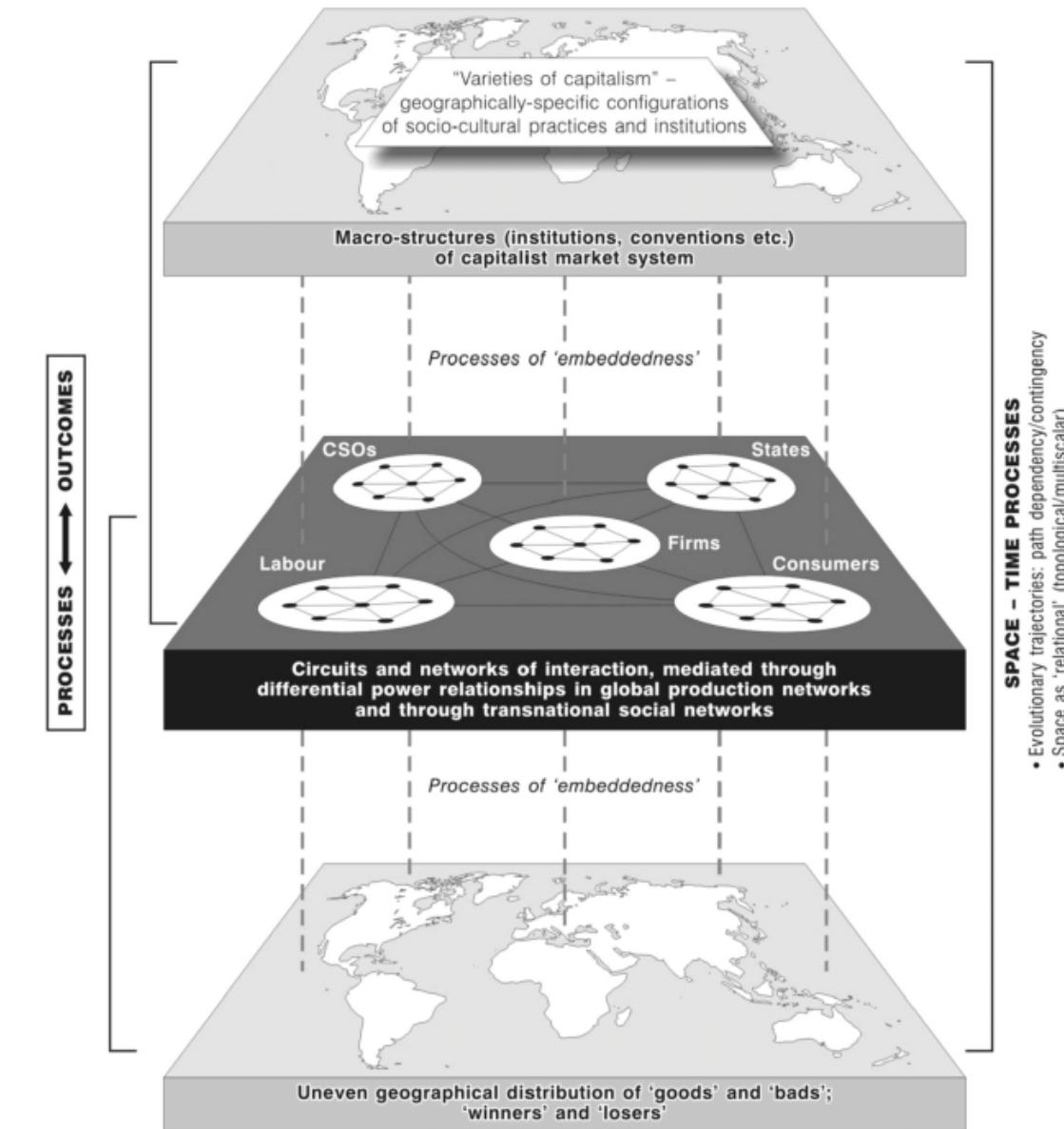
# Theories of regional development

- Rostow: modernization theory
- Centre-periphery: Prebisch/Friedman/Wallerstein
- Hirschman: theory of regional growth (*trickle down* to the periphery)
- Myrdal: *cumulative causation* (investment-profit-reinvestment)
- Path dependency
- GPN/EEG

# EEG/GPN

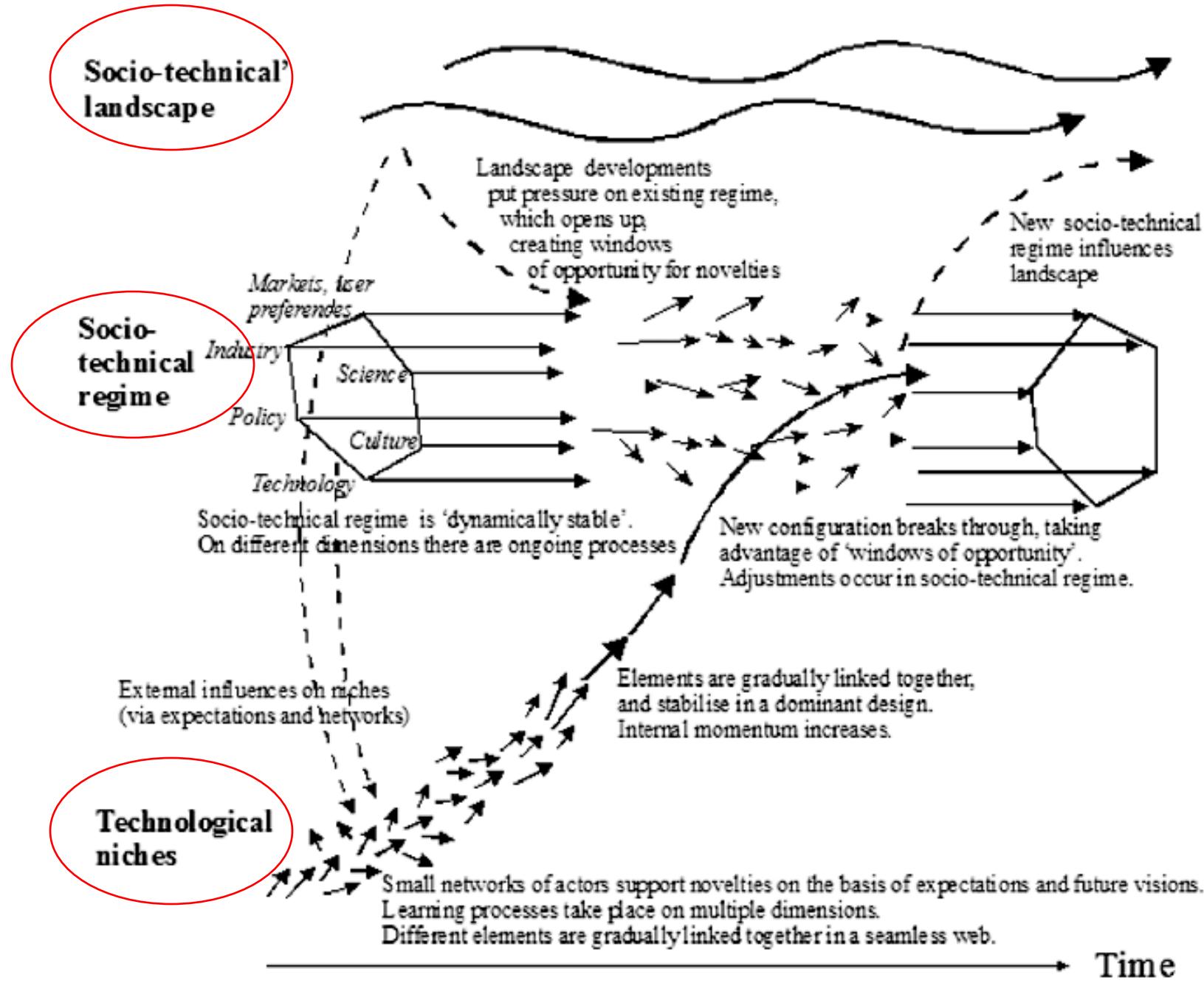


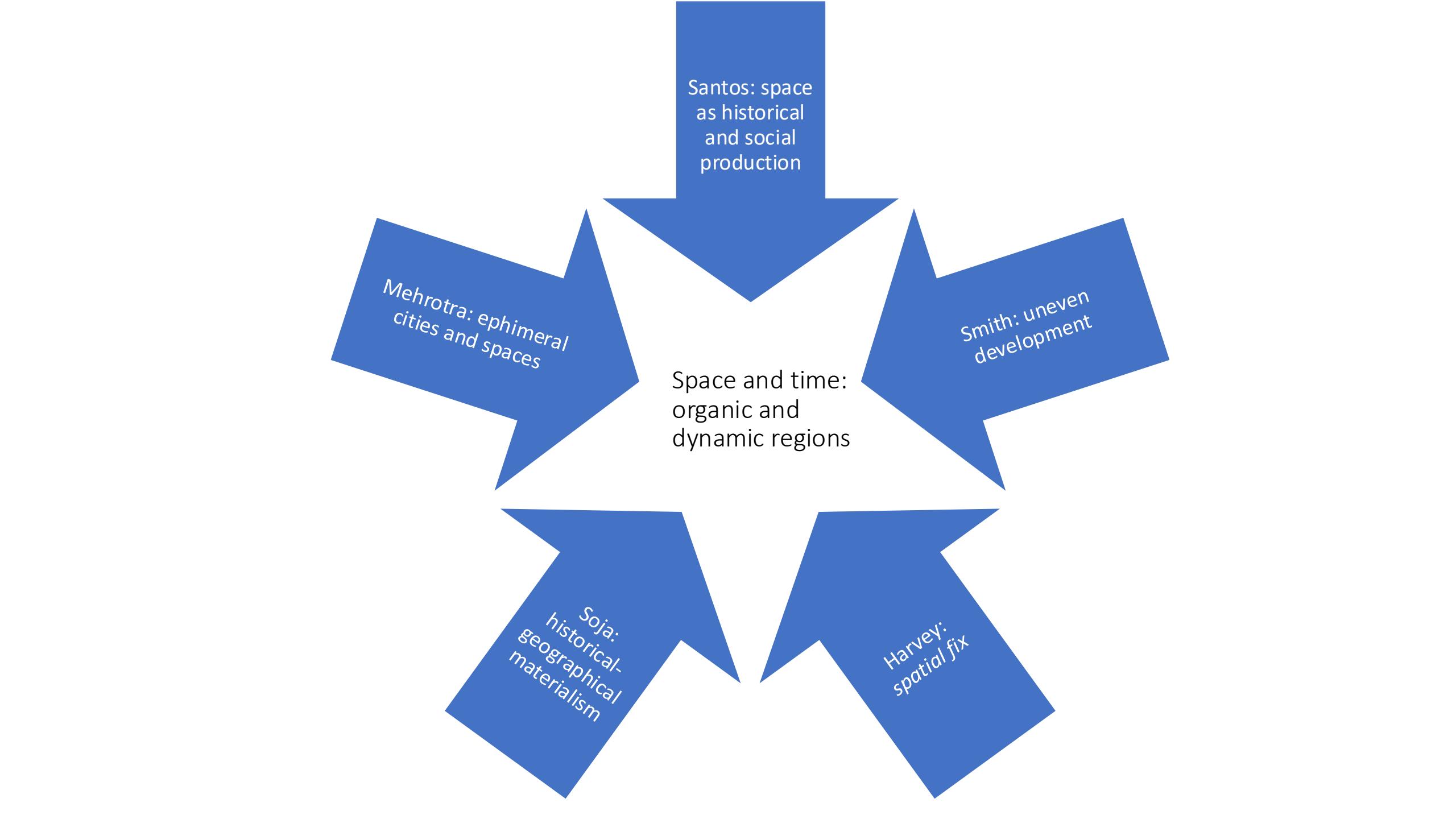
Boschma and Lambooy, 1999



Coe N M et al. J Econ Geogr 2008;8:271-295

Geels,  
2002





Santos: space as historical and social production

Mehrotra: ephemeral cities and spaces

Smith: uneven development

Space and time: organic and dynamic regions

Soja: historical-geographical materialism

Harvey: spatial fix

TERRITORIOS EN TRANSICIÓN  
IDENTIFICADOS POR EL  
COMITÉ INTERMINISTERIAL  
DE TRANSICIÓN  
SOCIOECOLÓGICA JUSTA,  
ELABORACIÓN PROPIA, 2025.



## National Strategy for a Just Socioecological Transition

2025-2035

Strategy drafted, 2024

Approved by law, Sept 2025

Programme of Environmental and Social Recovery (PRAS), 2016  
Huasco, Quintero-Puchuncavi, Coronel

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# Panarchy and cycles

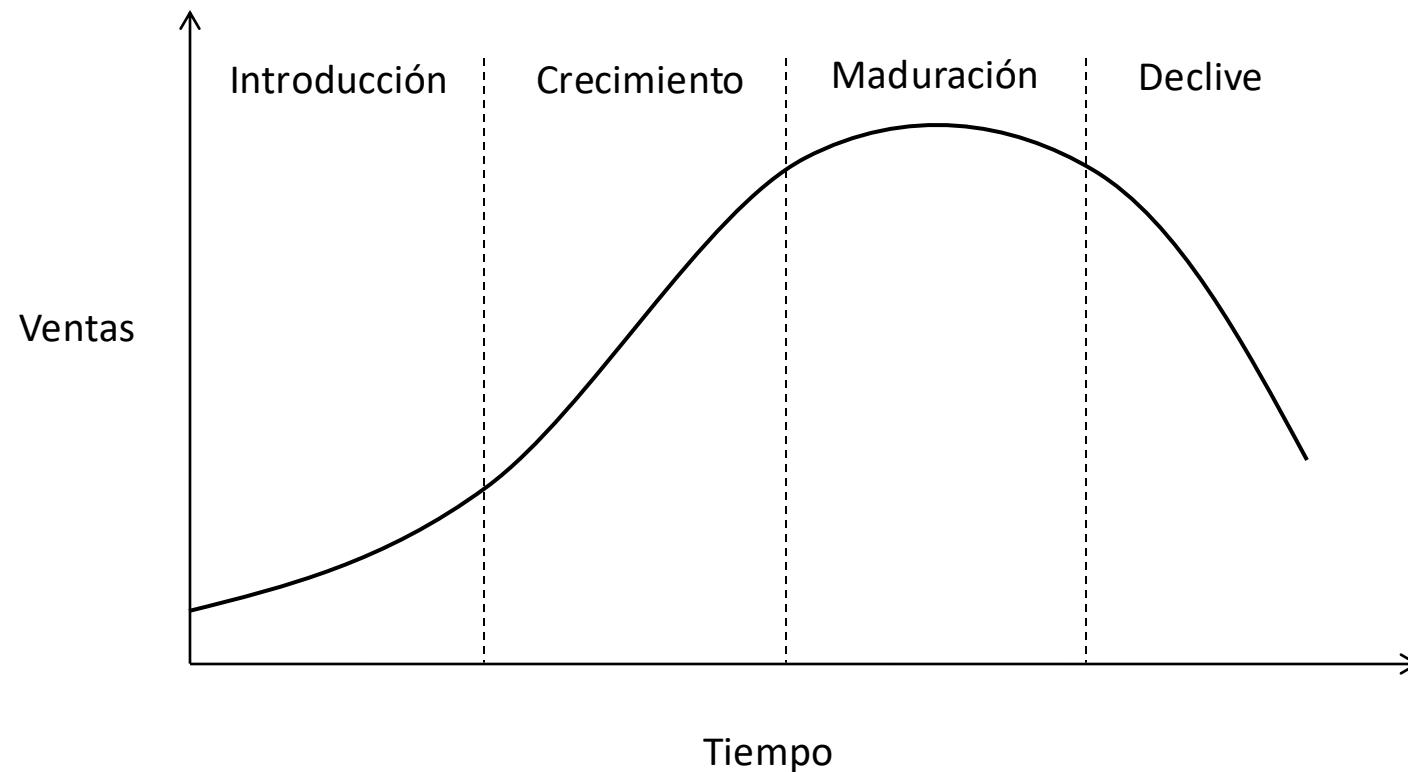
Gunderson and  
Holling (2002, 26)

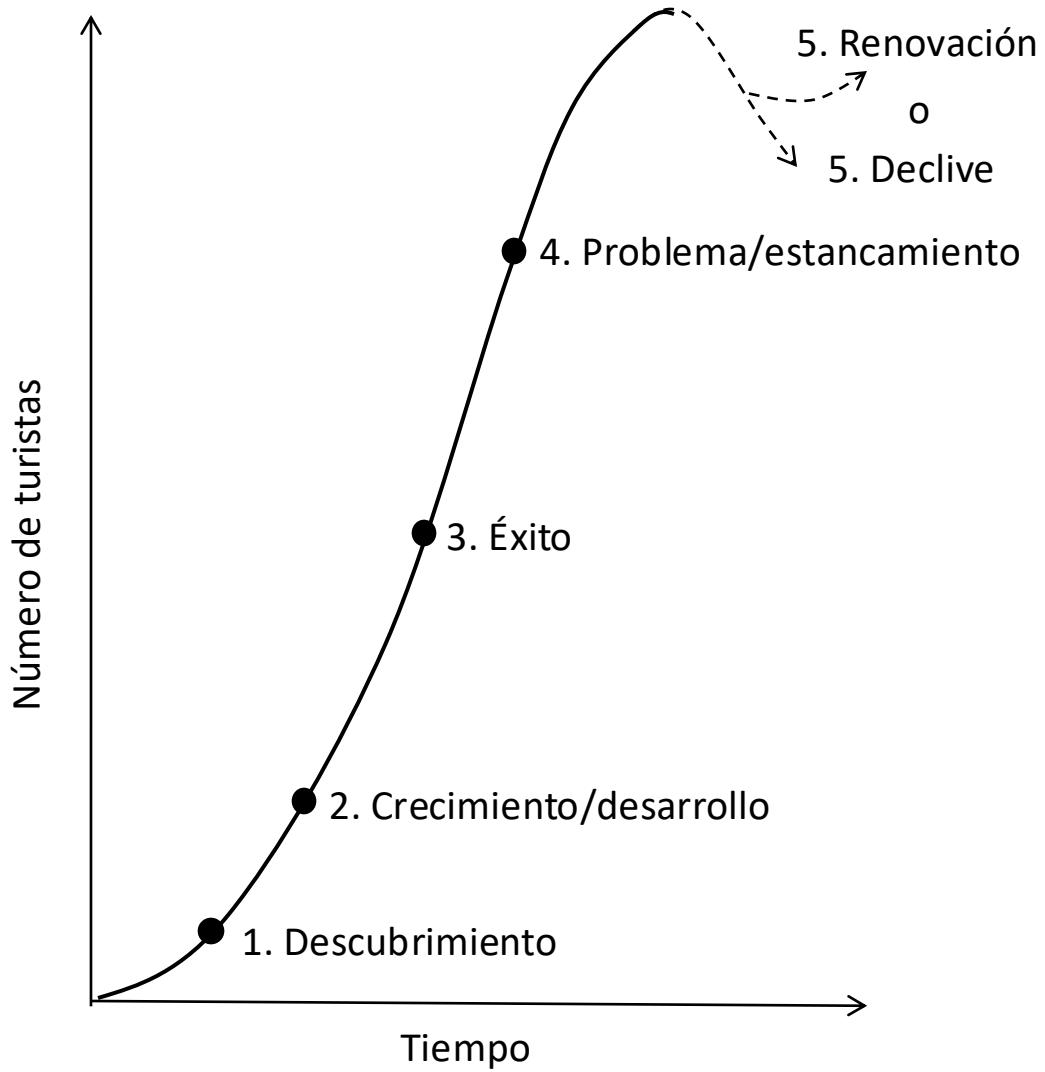
“Change is neither continuous and gradual nor consistently chaotic. Rather it is *episodic* (...) Spatial attributes are neither uniform nor scale invariant over all scales. Rather, *productivity and textures are patchy and discontinuous* at all scales (...) *Ecosystems do not have a single equilibrium*...Rather, multiple equilibria commonly define functionally different states.”

Allen et al. (2014):

- Complex systems are discontinuously structured
- Complex systems undergo cycles of renewal and collapse
- Cross-scale linkages are critical to system structure

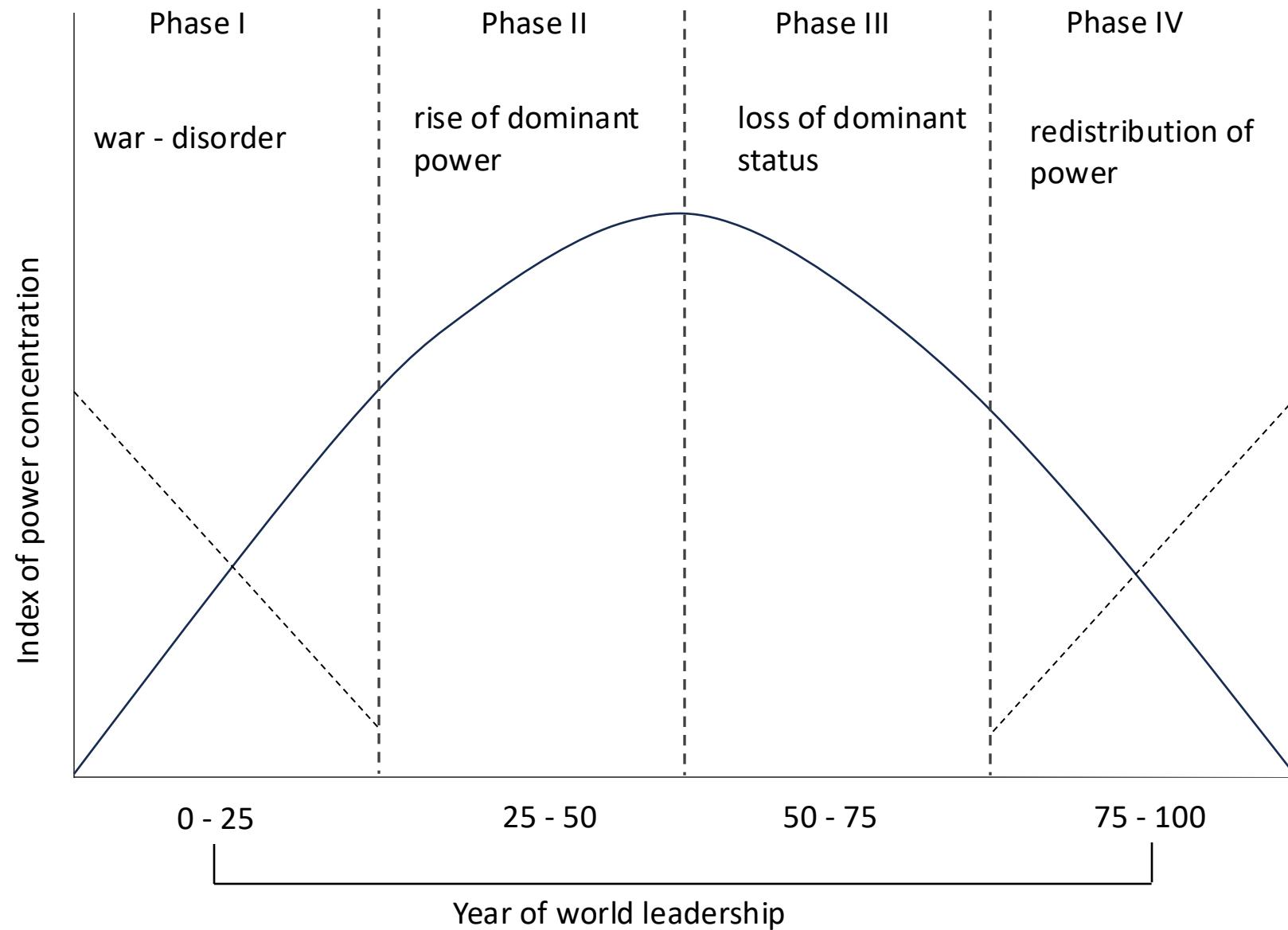
## Vernon (1966) – product cycle

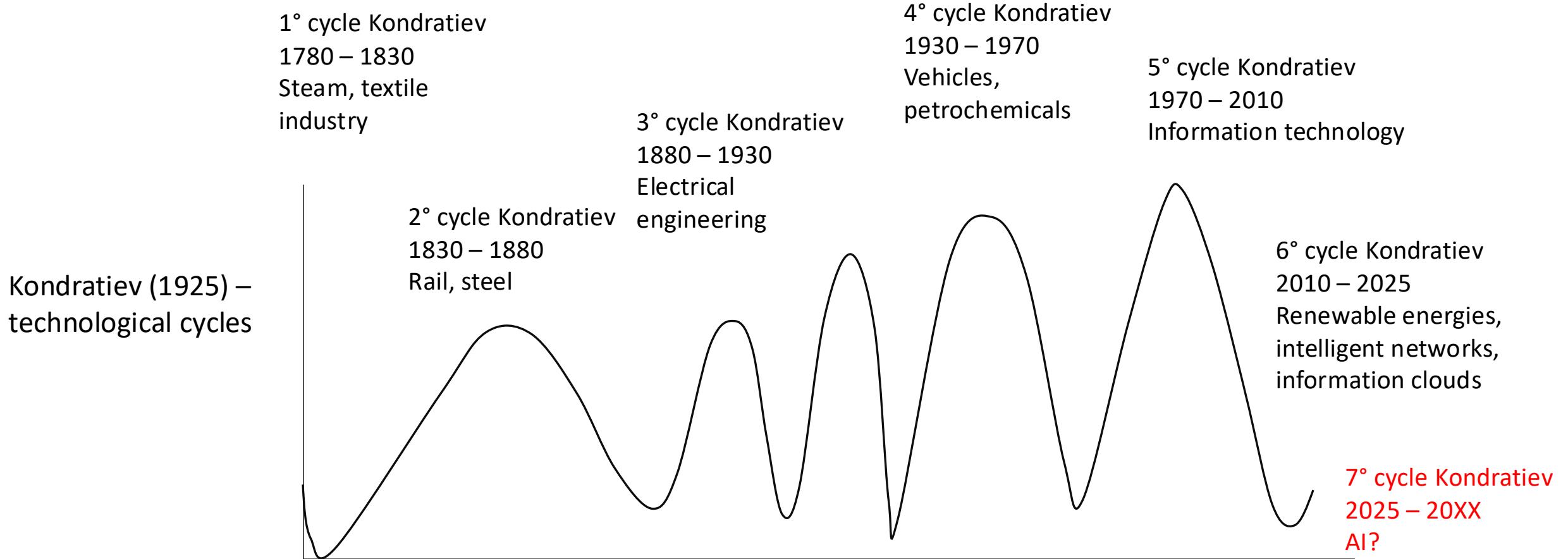




Butler (1980) – tourism destination cycle

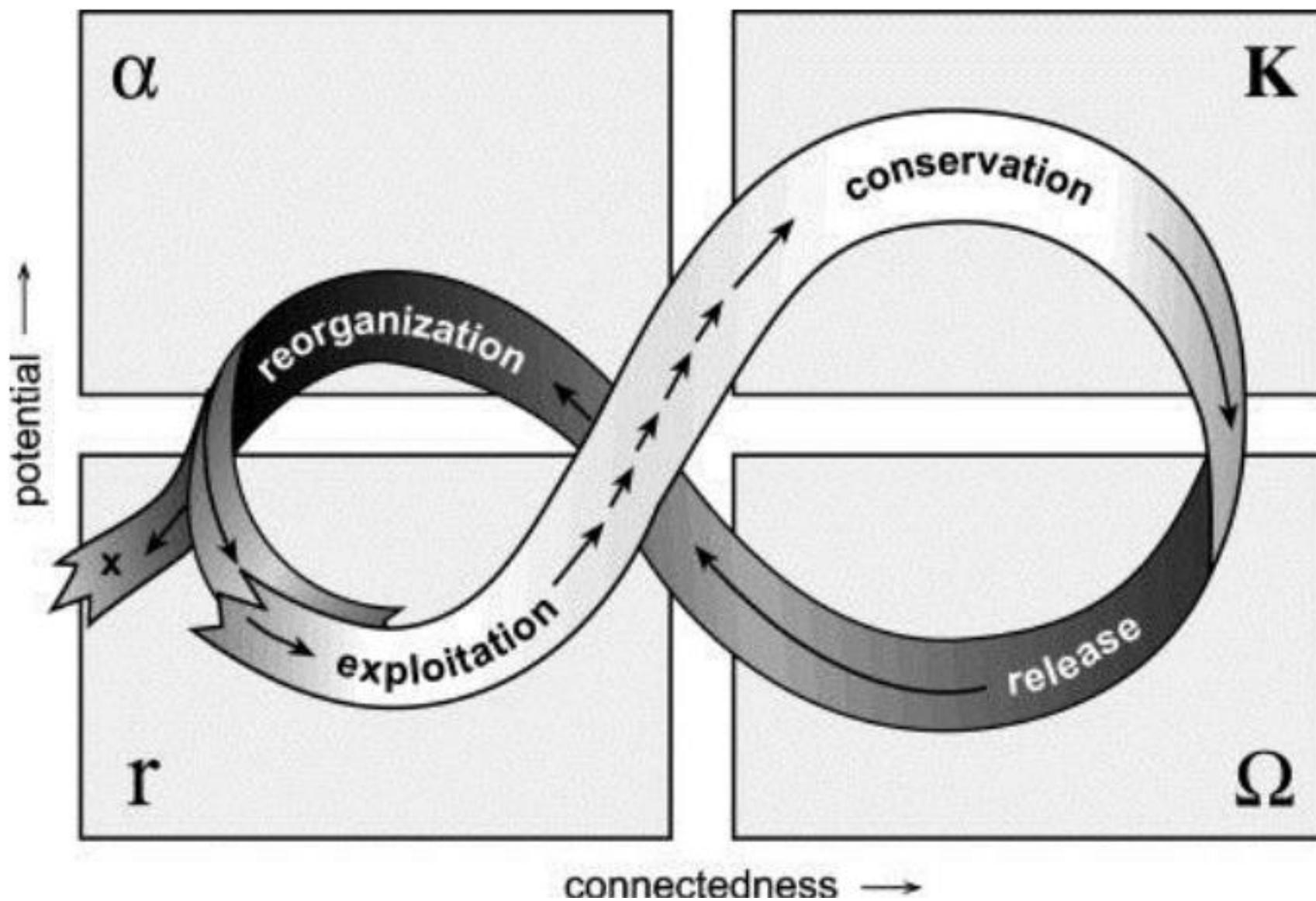
Modelski (1987) –  
geopolitical cycles





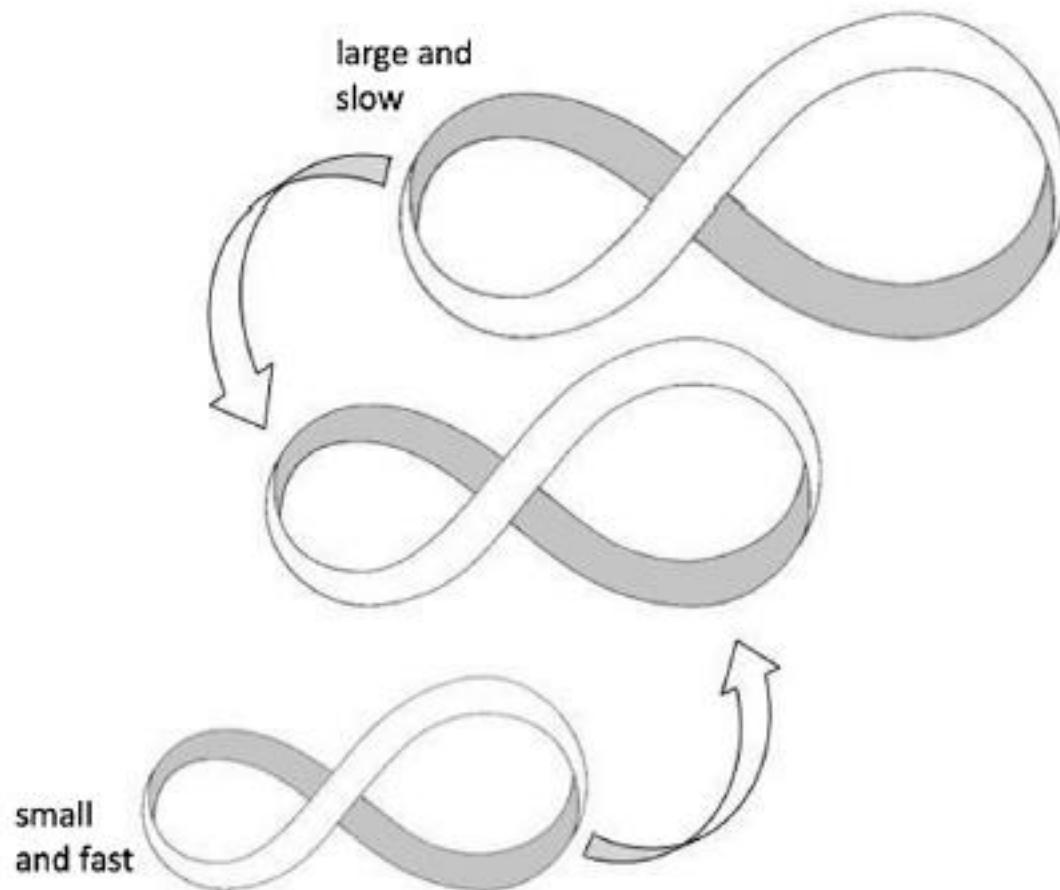
in Ferasso y Bergamaschi (2020), based on Posch and Bruckner (2017: 112)

Gunderson y  
Holling, 2002

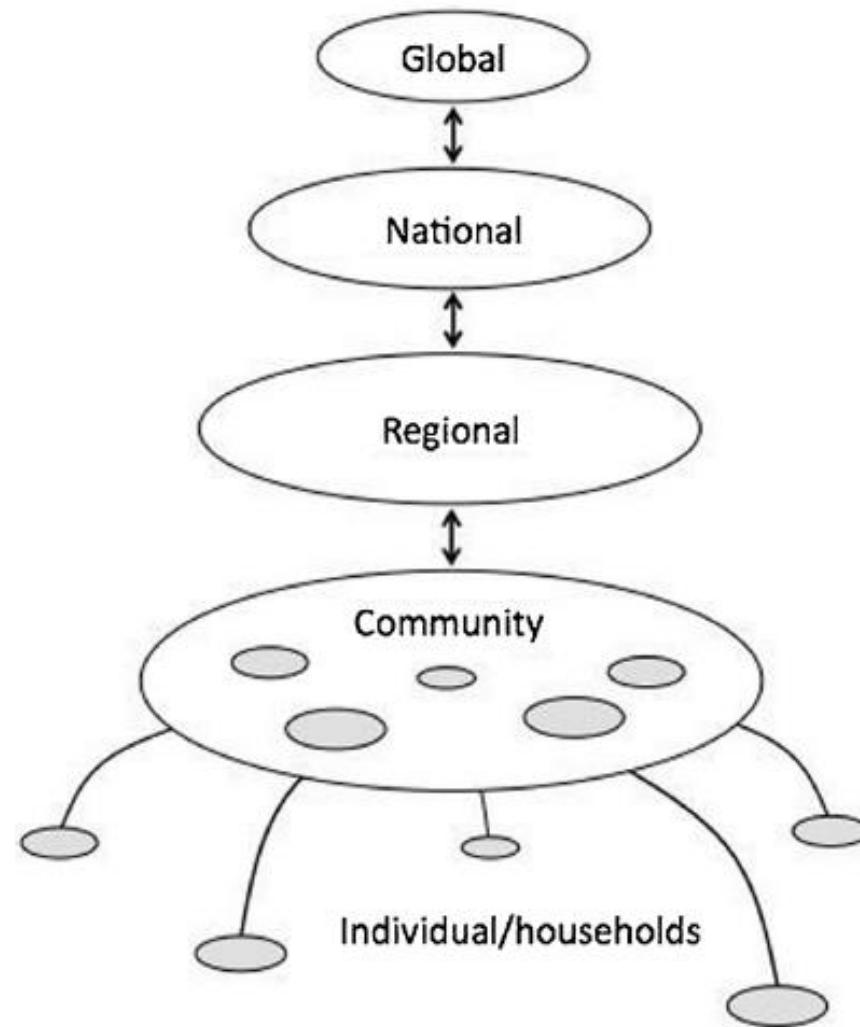


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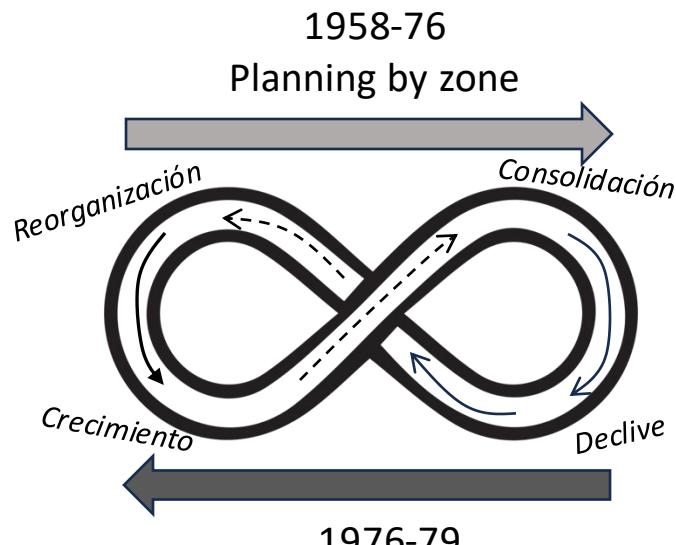


**Fig. 1.** A panarchy consisting of a nested set of adaptive cycles.



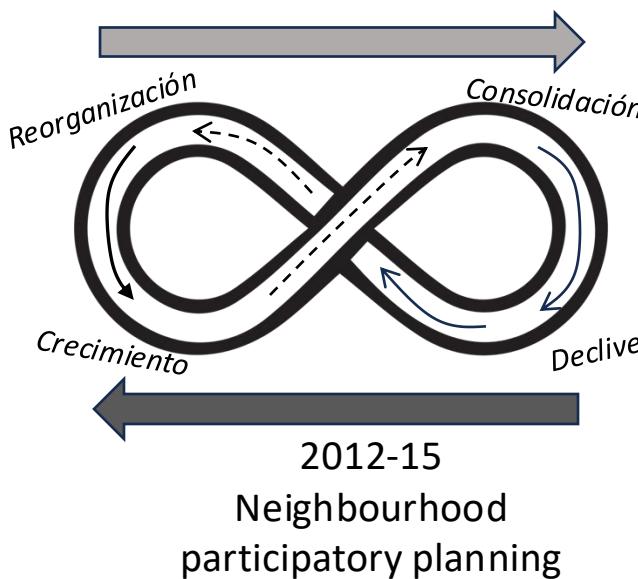
**Fig. 2.** A hierarchy of levels.

Urban planning era  
1953 - 1979



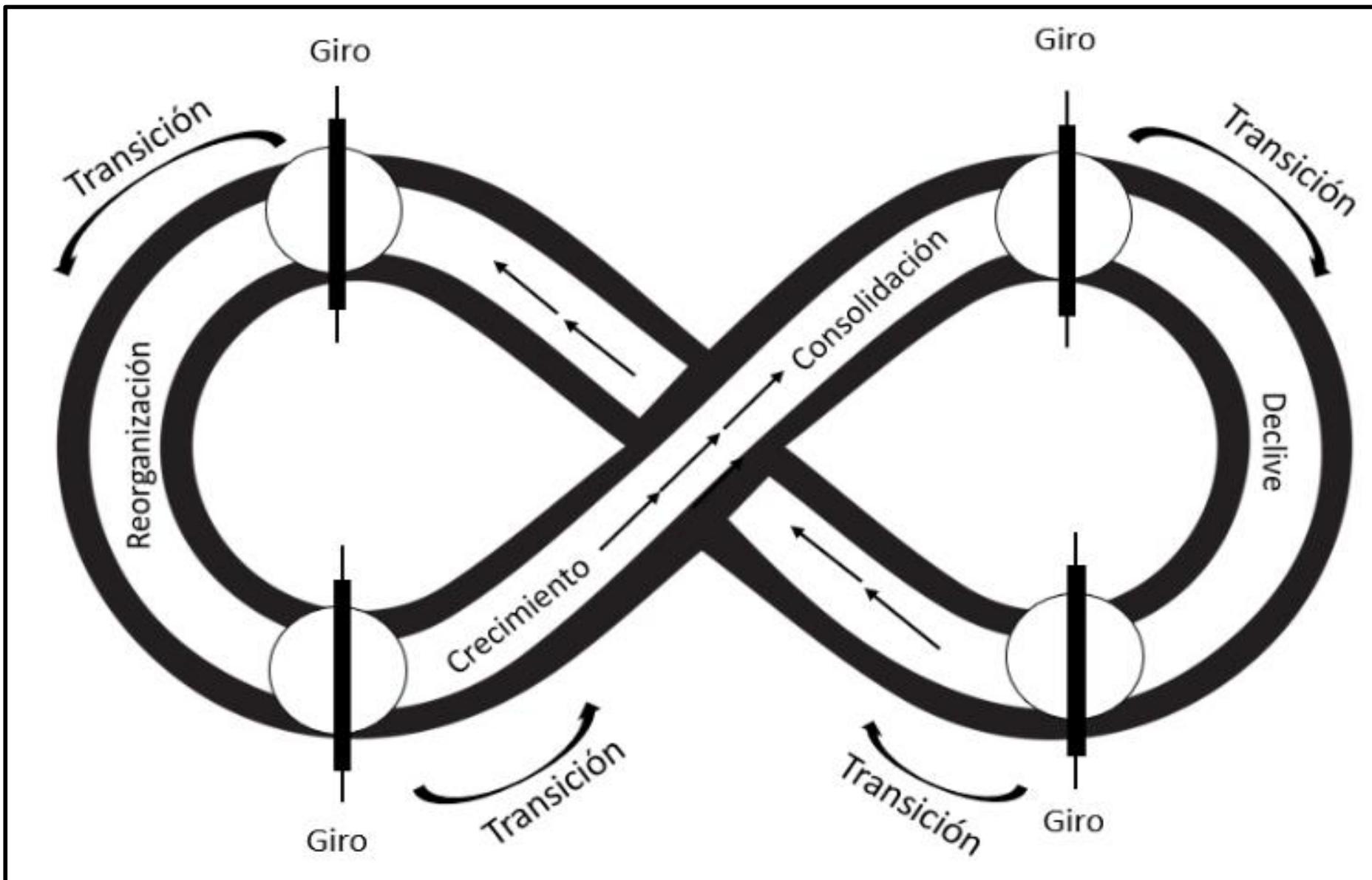
Urban sustainability era  
1980 - 2016

1996-2012  
Public-private associativity



De Balanzó and  
Rodriguez (2017)

Urban application -  
Barcelona



Elaboración propia, en base a las fases de  
Gunderson and Holling (2002)

# Terminology

**Phase:** the part of a cycle defined by a process of: growth; consolidation; decline; or reorganisation

**Transition:** the movement between phases, triggered by a shift

**Shift:** an impact, event or shock, pressure or substantive opportunity that changes conditions and relations

**Driving forces:** exogenous and endogenous factors associated with 'path dependency' and with fractures in the dominant model: agencies, infrastructures, capacities, structures, institutionality, knowledges and technologies.

# A definition of RP



“Regional panarchy corresponds to the processes of transformation experienced over long and short periods in specific spaces. It is characterized by understanding a region as an entity in flux, with endogenous and exogenous forces seeking to define its purpose and its socio-spatial and governance configurations. It involves a better understanding of the phases of change, transitions, shifts, and the main driving forces at work (regional memory). It is not a normative concept but an analytical one, used to explain processes of transformation through these phases, transitions, shifts, and forces.”