

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

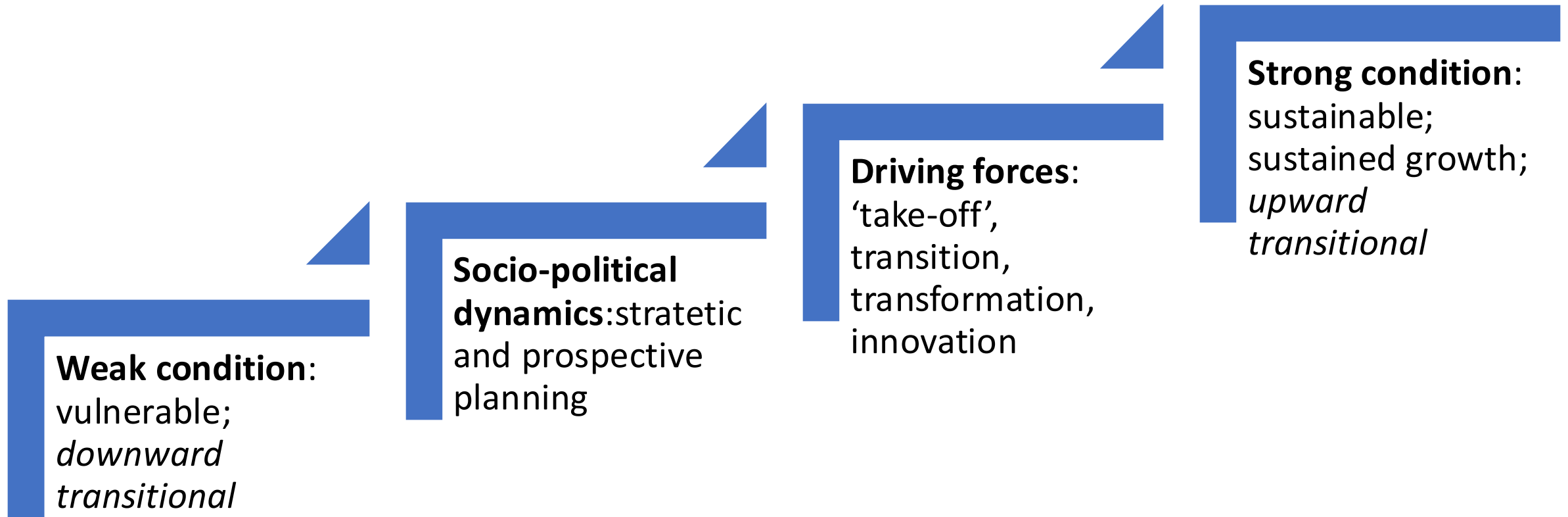
28 Oct 2025

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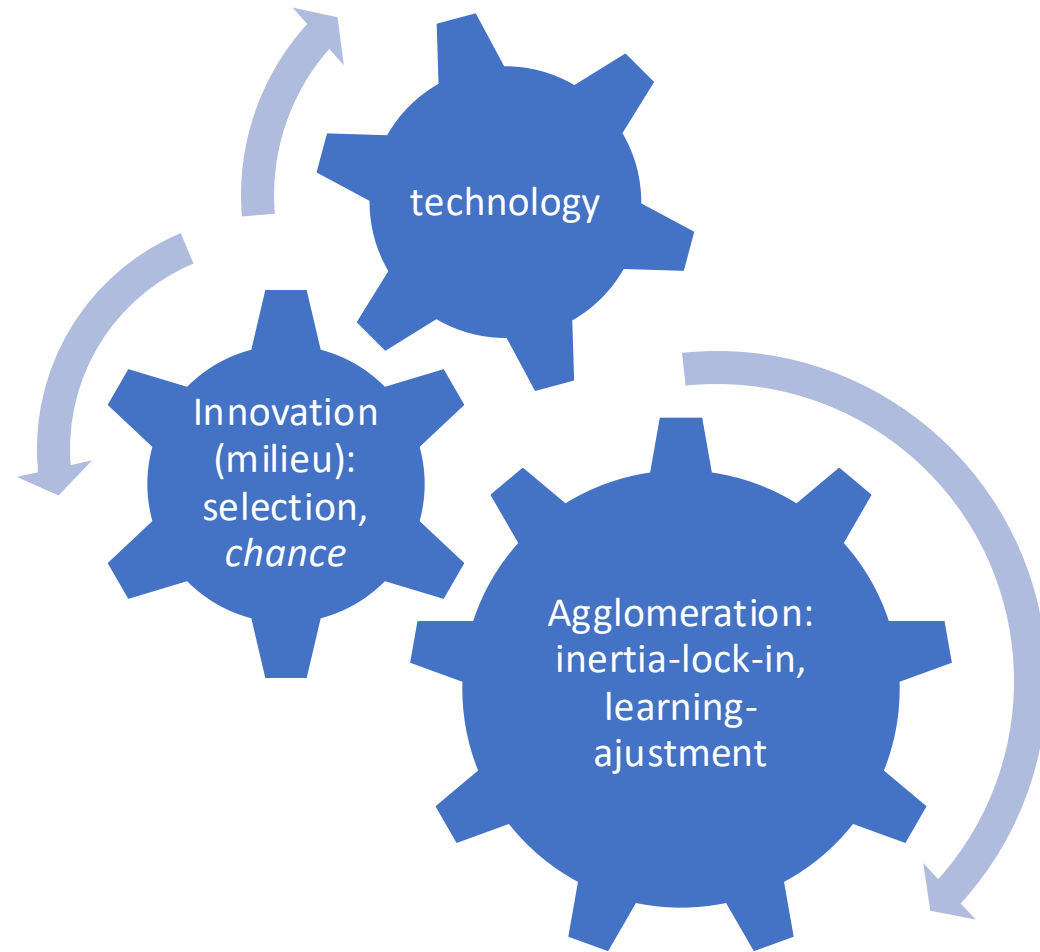


The 'regional tradition': growth, prospective planning and sustainability transitions

Theories of regional development

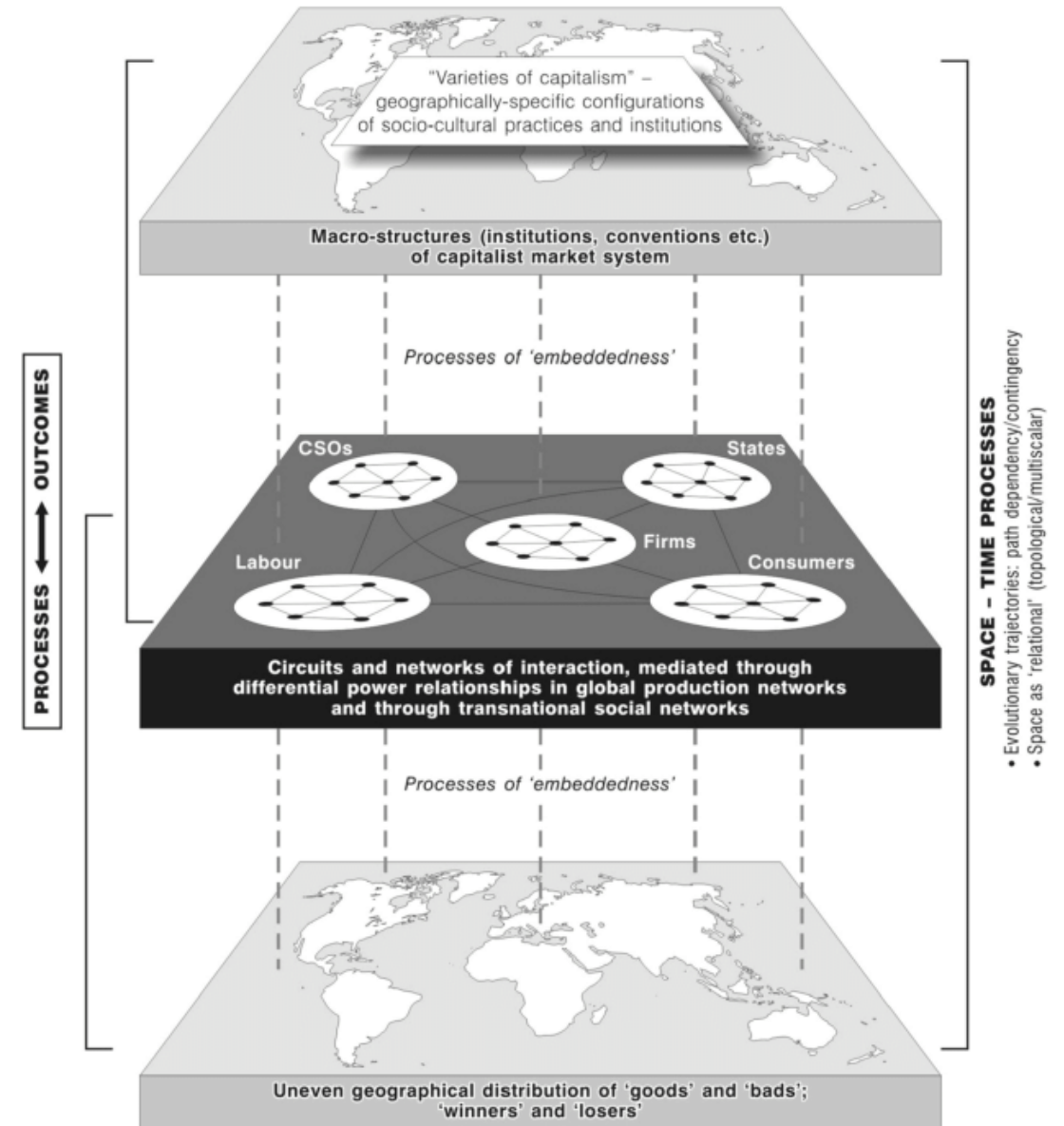
- Rostow: modernization theory
- Centre-periphery: Prebisch/Friedman/Wallerstein
- Hirschman: theory of regional growth (*trickle down* to the periphery)
- Myrdal: *cumulative causation* (investment-profit-reinvestment)
- Path dependency
- GPN/EEG

EEG/GPN



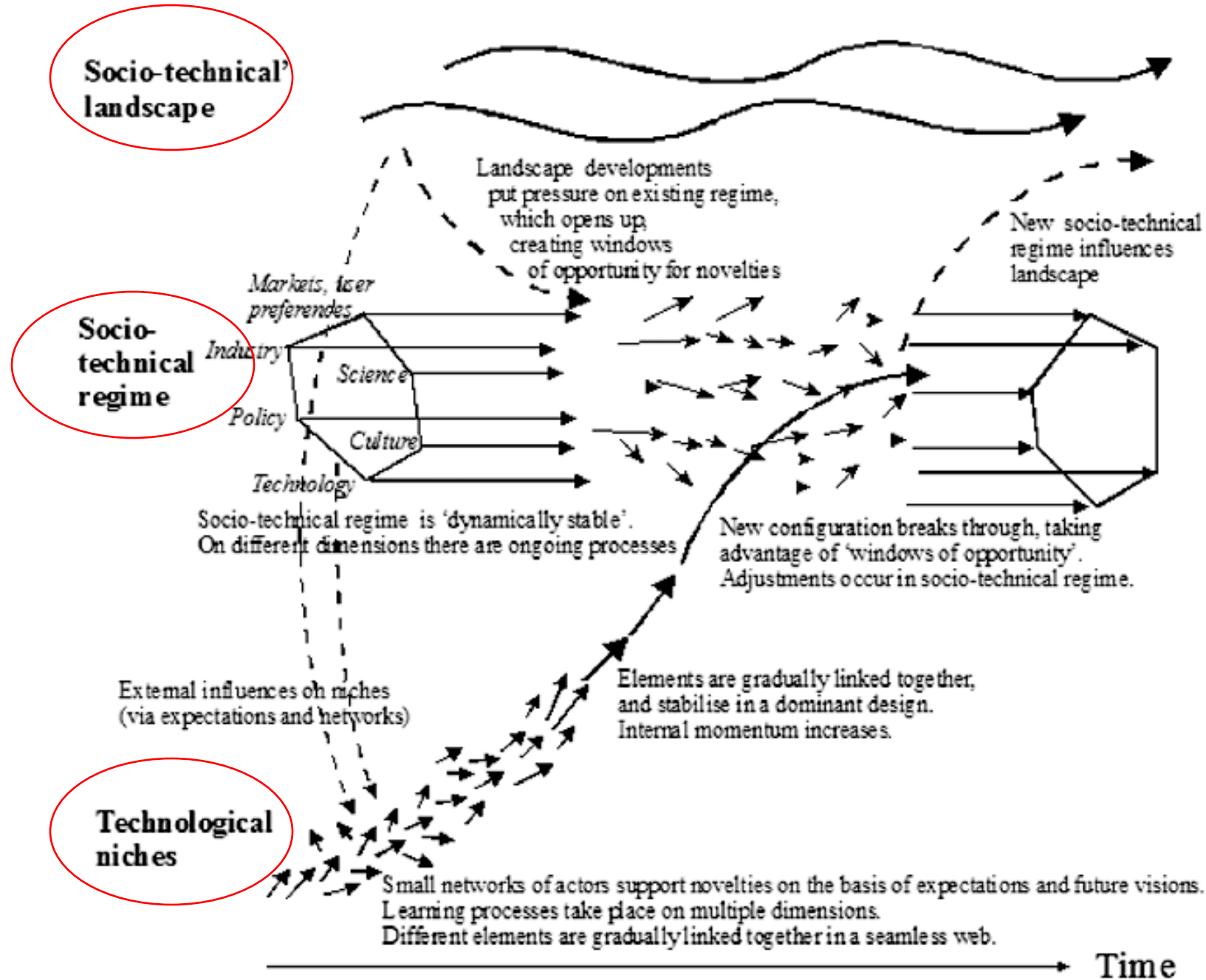
Boschma and Lambooy, 1999

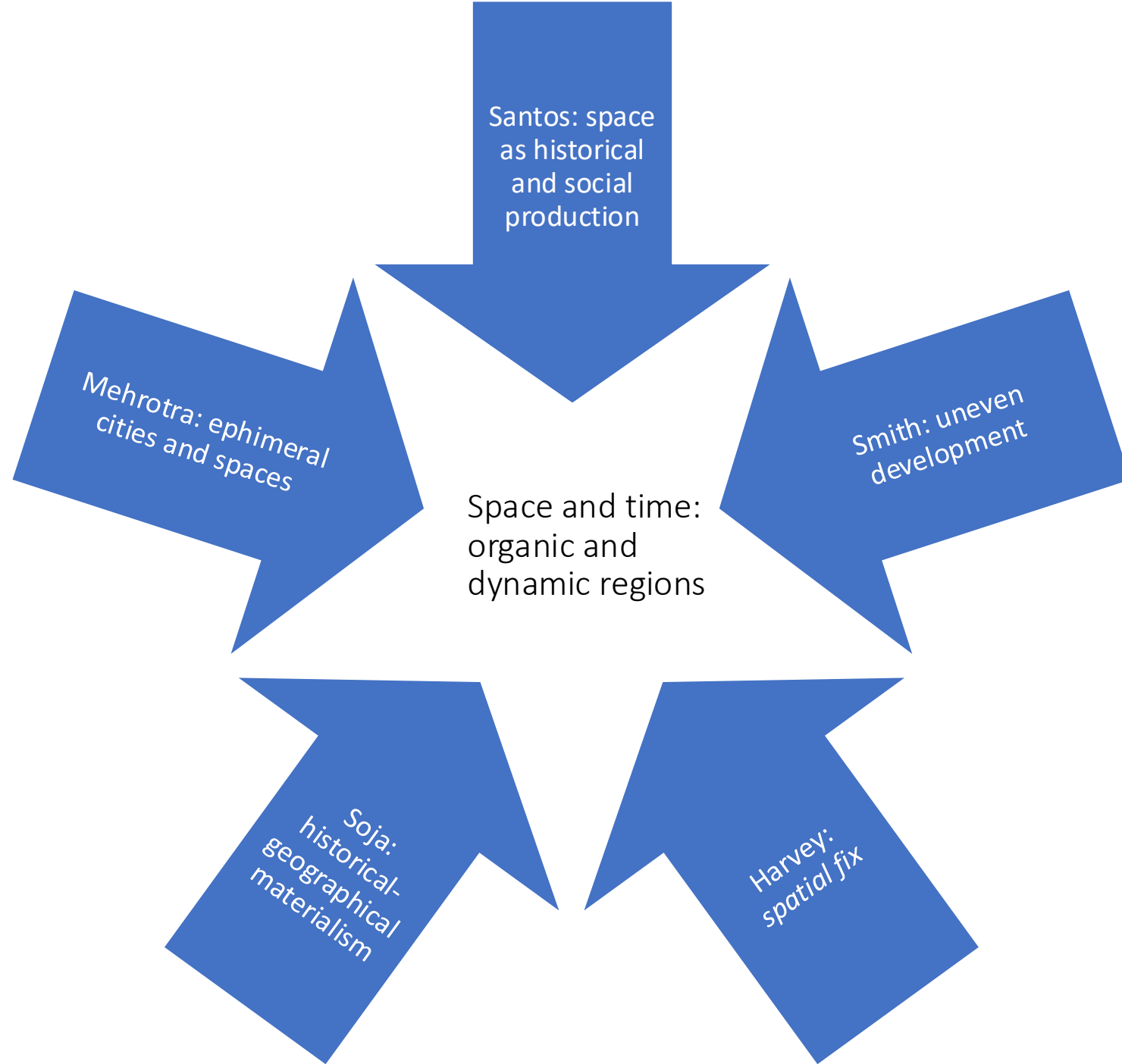
A heuristic framework for analysing the global economy.



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

Geels,
2002





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

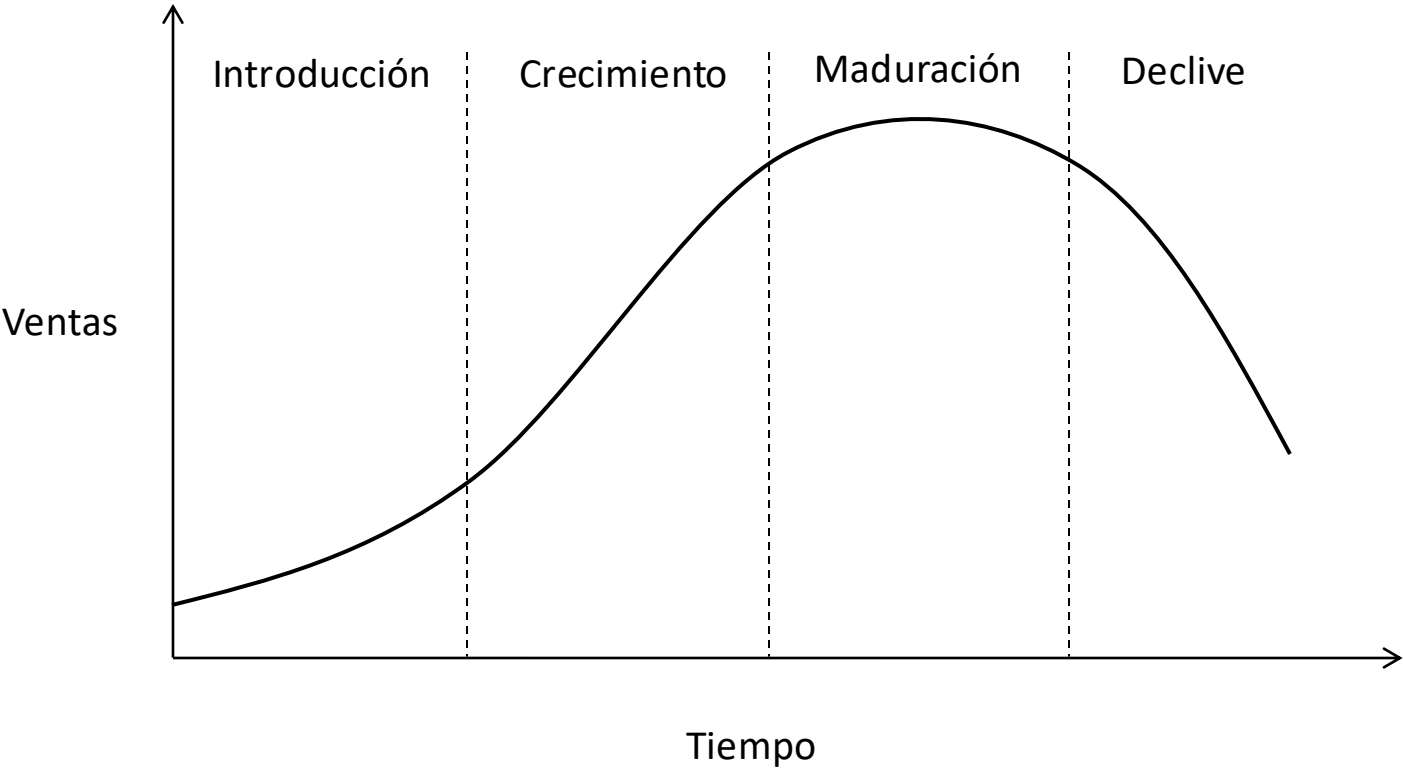
Gunderson and
Holling (2002, 26)

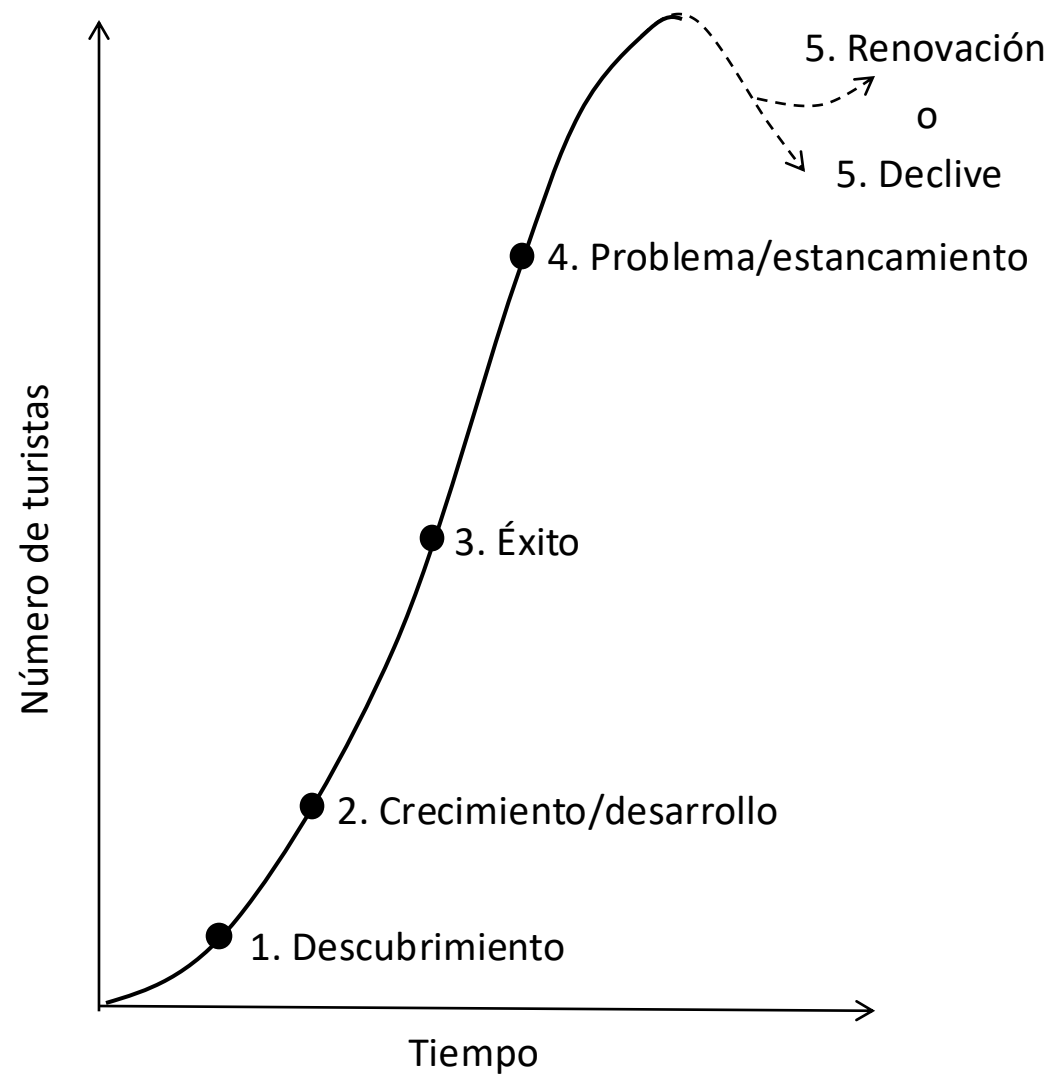
“Change is neither continuous and gradual nor consistently chaotic. Rather it is *episodic* (...) Spatial attributes are neither uniform nor scale invariant over all scales. Rather, *productivity and textures are patchy and discontinuous* at all scales (...) *Ecosystems do not have a single equilibrium*...Rather,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

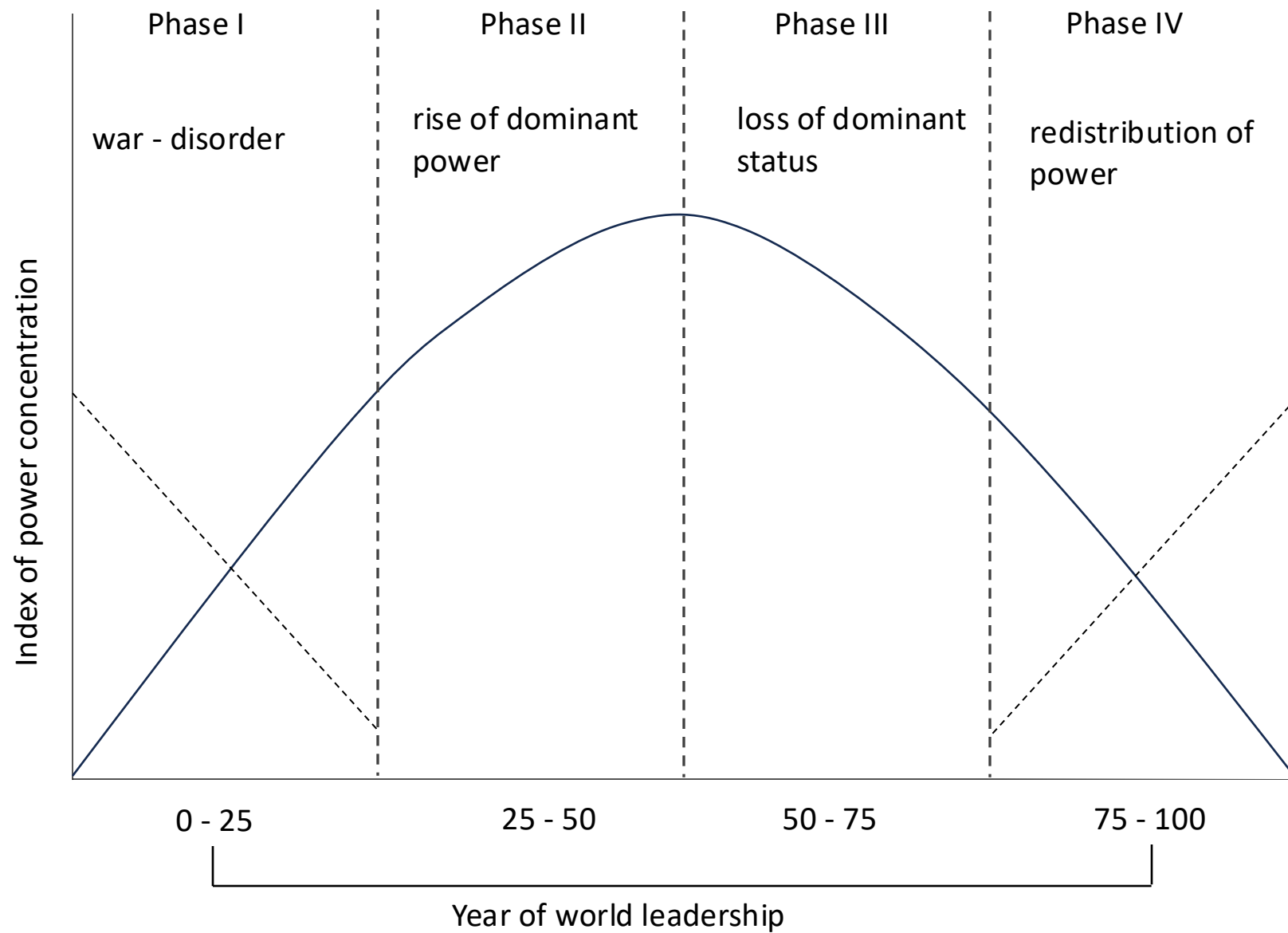
Vernon (1966) – product cycle



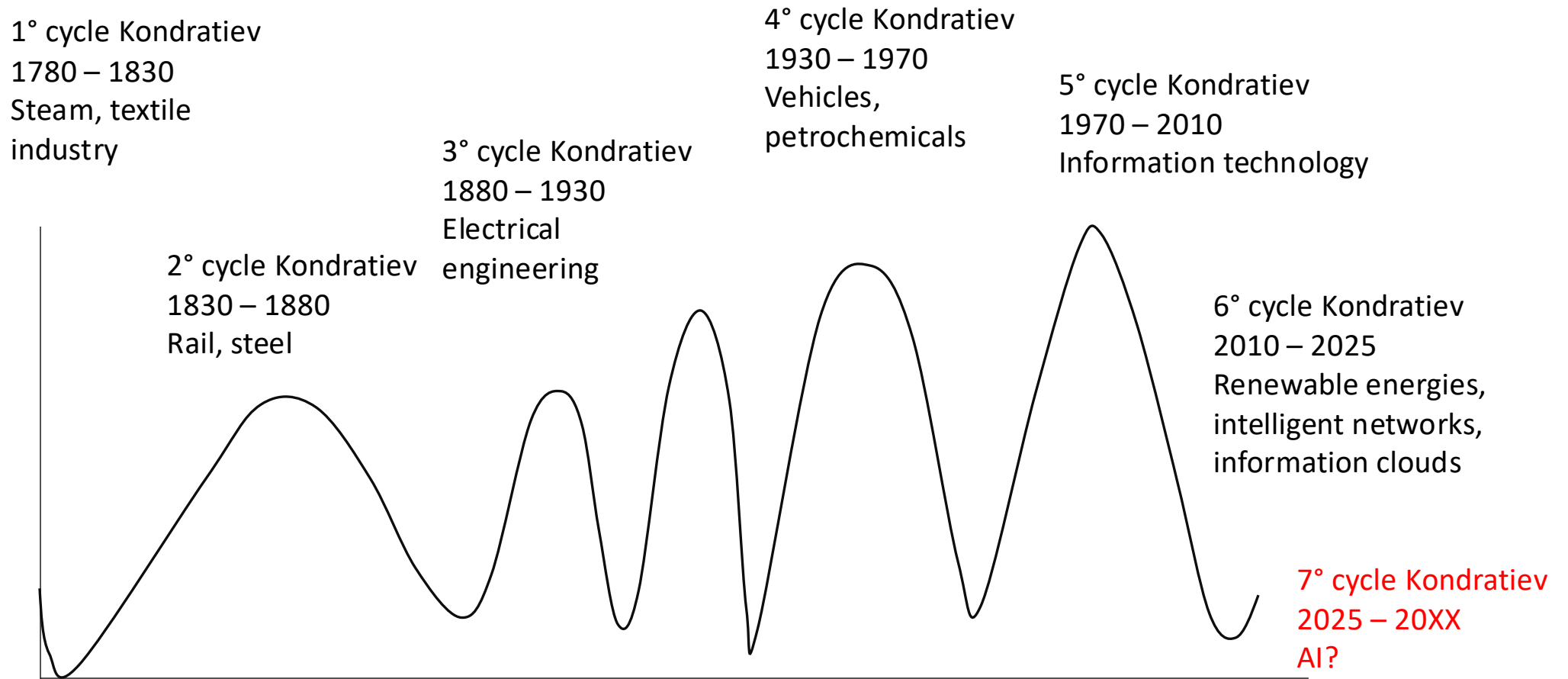


Butler (1980) – tourism destination cycle

Modelski (1987) –
geopolitical cycles

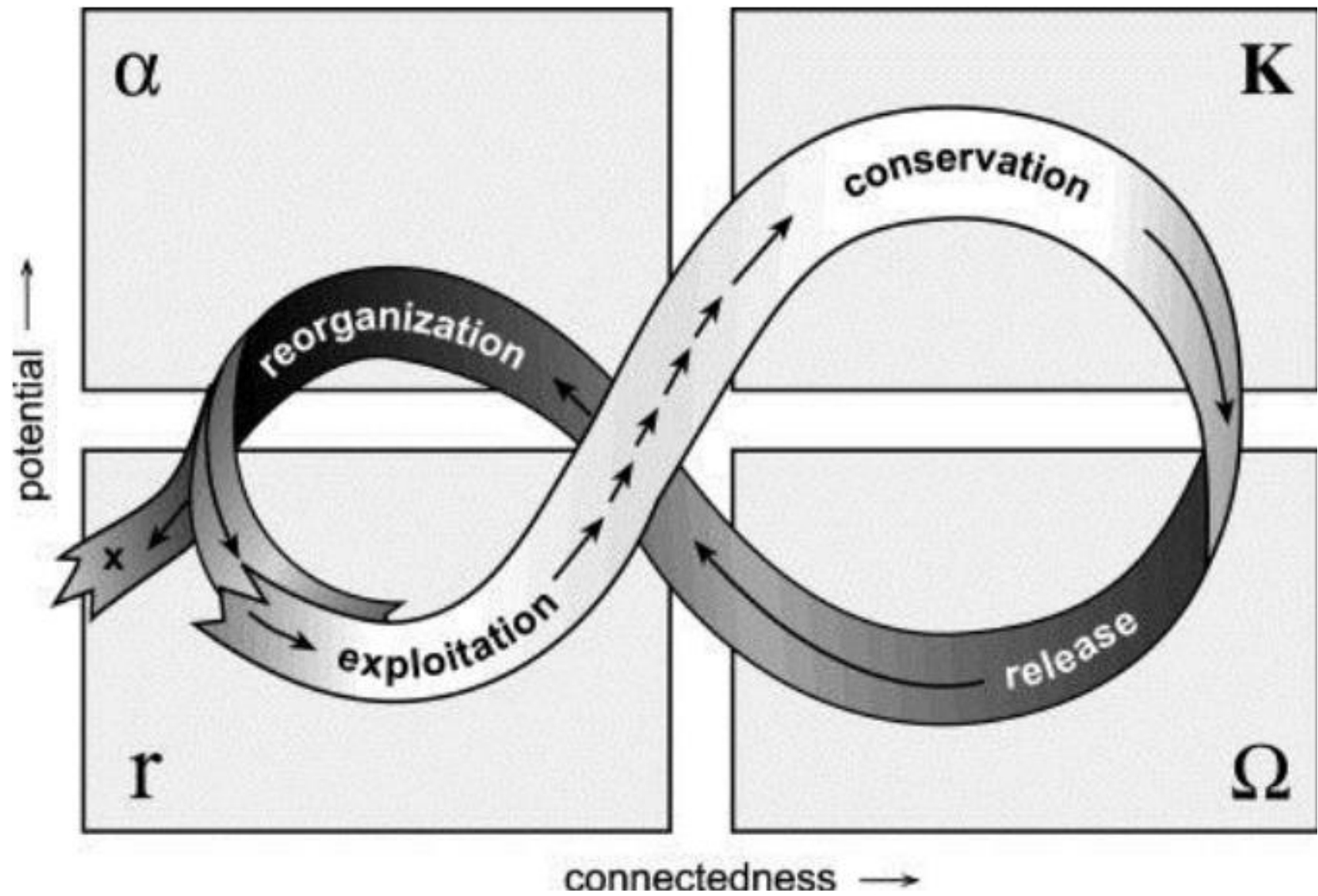


Kondratiev (1925) –
technological cycles



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

Gunderson y
Holling, 2002



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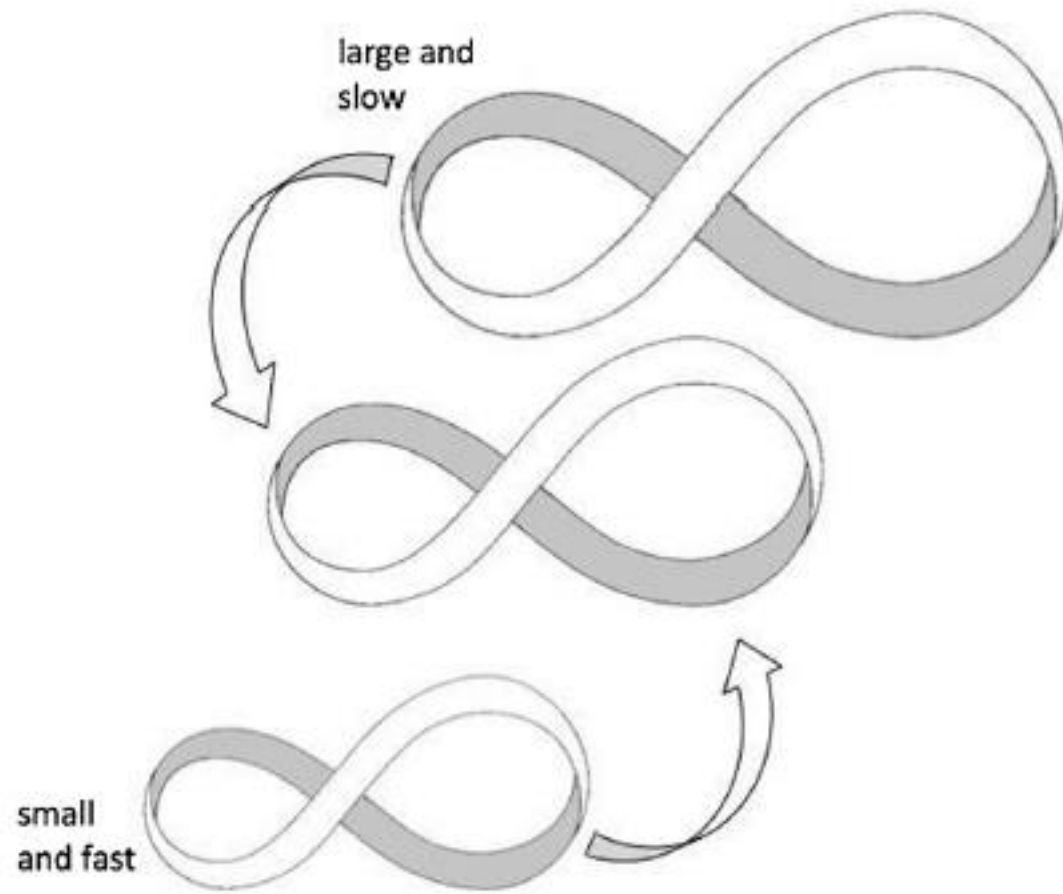


Fig. 1. A panarchy consisting of a nested set of adaptive cycles.

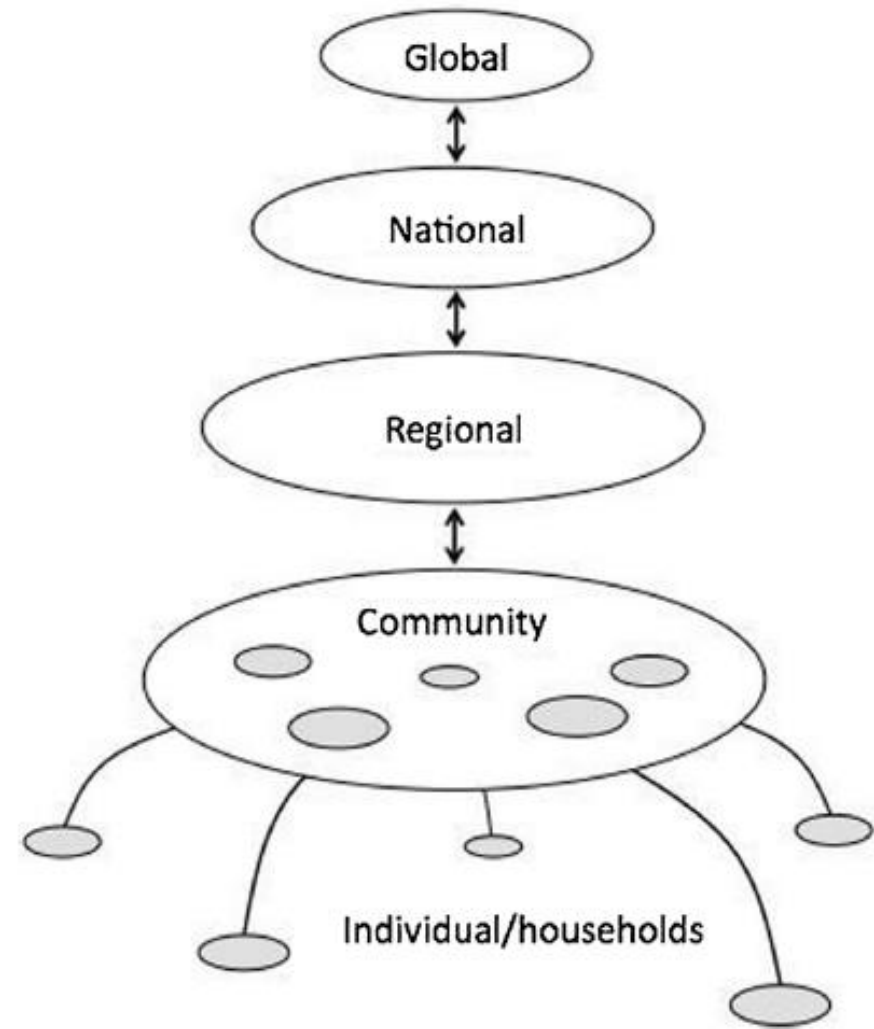
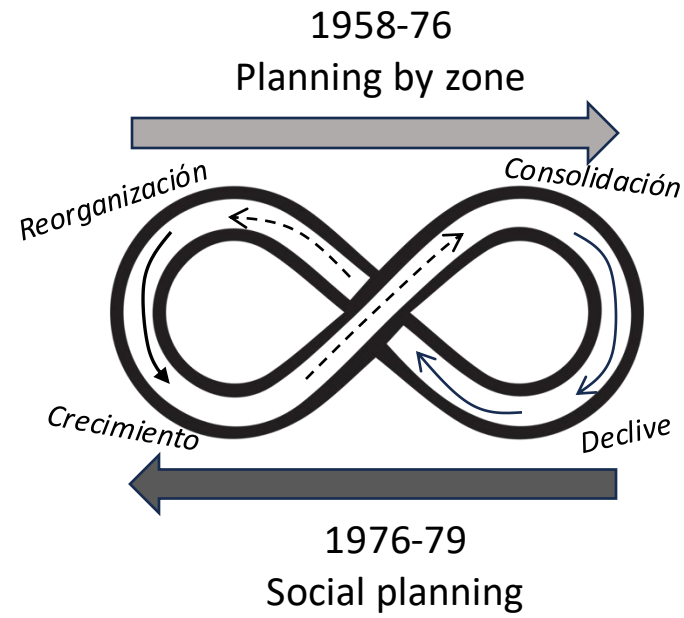


Fig. 2. A hierarchy of levels.

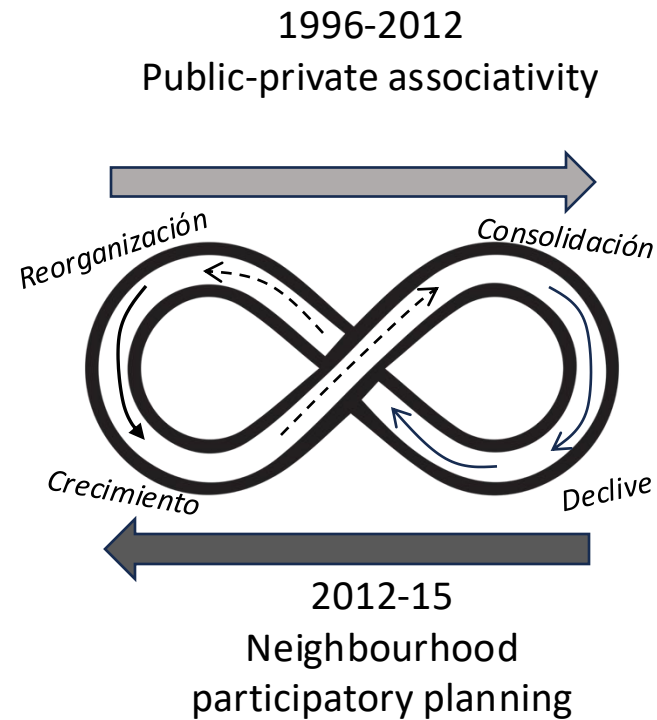
Urban planning era
1953 - 1979

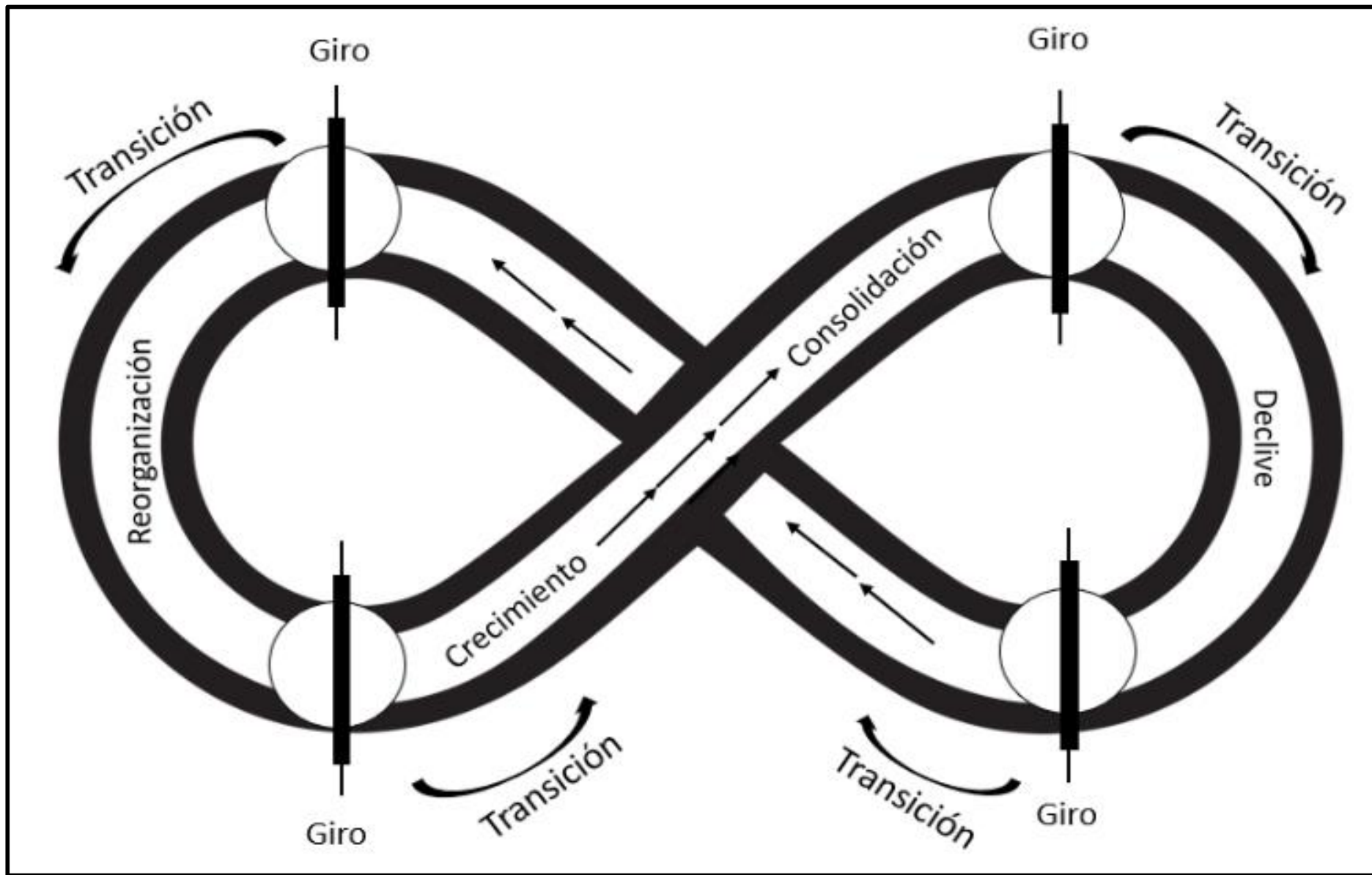


De Balanzó and
Rodriguez (2017)

Urban application -
Barcelona

Urban sustainability era
1980 - 2016





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 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.”