

# Transversality and Transition: Branching to New Regional Path Dependence

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# Structure & Aims of Presentation

- To better understand dynamics of regional evolution & 'new path creation'
- To assess David's interest in the 'endurance' of codifications/institutions with more agency/evolutionary interest in their change
- To formulate a conceptual framework for analysing spatial change
- To test propositions based on the framework against historical case exemplars & draw conclusions

# How new is new path creation?

- Path dependence contra structuration?
- Dynamics of regional evolution
- Relatedness allied to innovation (Jacobs/Schumpeter)
- Jacobs, firm/cluster mutation through entrepreneurship exploiting 'idea-mating'
- Schumpeter, inventor/innovator 'recombines', entrepreneur 'commercialises'
- For both, entrepreneurship is key 'conveyor' or 'diffuser' but not originator/creator of innovation/change

# Evaluating key concepts

- Emergence – ‘windows of locational opportunity’ – rather empty without pre-existing vision and resources. So WLO is more consequence than cause.
- *Ex post* ‘explanation’ common in social science. The point is to have good theory and empirics as guides e.g. Klepper versus ‘Taylorism’ on Detroit

# Path dependence

- How cosmically important is it that an advanced digital communicator uses 'QWERTY'?
- Is it from 'loooooong wave' thinking? i.e. what endures and why? What causes 'punctuated equilibrium' and why?
- Non-explanations. e.g. Arthur's 'chance effects'. Sydow et al, for example, show such 'chances' were actually the product of social intentionality
- The problem is deeply embedded in innovation systems discourse, where 'radical change' is 'epochal' rather than 'episodic'

# Paradigm & Regime

- Despite the ‘how radical is radical’ issue, innovation system concepts are valuable
- Technological paradigm cognate to dominant discourse and technologies (e.g. Coal/oil/cars/credit/aeroplanes/plastics/fertilizers/supermarkets/air miles/package holidays... discourse, regulation & practice)
- Regime is paradigm’s ruling assumptions, systems of thought, rationalities and laws – driving herd instincts and –arguably – holding back innovation

# Relatedness & Transversality

- Accordingly, 'path dependence' & 'chance' are undersocialised
- 'Relatedness' implies 'opportunity' or the choice set that constrains but also potentiates change
- 'Transversality' is the practice of 'orchestrating' related potentialities, to fill 'structural holes' with innovations/changes
- 'Agency' can be entrepreneurial, intermediary or state initiated

# Alternative process stylisations

- The *region* (i.e. administratively delineated, like Tuscany, N. Jutland or Skåne) has evolved in inter-related path dependent ways, industrially and institutionally. Innovation in the broad sense (e.g. cluster emergence) evolves through innovation in the narrow sense (e.g. commercialisation of new knowledge) conducted by innovators and imitated by entrepreneurs as new products or processes
- The region's *industry* evolves path dependent characteristics, with an established inter-industry division of labour. Innovation in the broad sense (e.g. capability emergence) evolves through transversal (i.e. inter-industry) mutations from which innovation in the narrow sense emanates
- The region and its industry are beneficiaries of innovation *intermediaries* charged with inducing innovation either by stimulating cluster emergence (difficult) or transversality (less difficult) among existing (or inwardly investing) firms that may achieve innovation through induced knowledge recombination

# 'New paths' capabilities

- Region and industry moderate or avoid 'lock-ins':
  - 1. by trust and regional spillovers (geographical proximity; e.g. 3<sup>rd</sup> Italy)
  - 2. by industrial 'CoPs' (relational proximity; e.g. global car or biotech regions)
  - 3. by design (organisational/institutional proximity e.g. *Bayern Innovativ*)

# Varieties of Path Dependent Economic Development

## Variety

**Low**

**High**

**High**

**Regional  
Innovation**

**Low**

<ul style="list-style-type: none"> <li>• <i>Creative Destruction</i></li> <li>• <i>Low Path Dependence</i></li> <li>• <i>Regime Shift</i></li> <li>• <i>Innovation 'Push'</i></li> <li>• <i>E. G. Iceland</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Mutation/Transversality</i></li> <li>• <i>Early Path Dependence</i></li> <li>• <i>Demand-driven Innovation</i></li> <li>• <i>Co-evolutionary Transition</i></li> <li>• <i>E.G. Jutland, DK</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Equilibrium</i></li> <li>• <i>High Path Dependence</i></li> <li>• <i>Branching</i></li> <li>• <i>User-driven Innovation</i></li> <li>• <i>Incremental Change</i></li> <li>• <i>E.G. Värmland, SE</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Punctuated Equilibrium</i></li> <li>• <i>Late Path Dependence</i></li> <li>• <i>Renewal</i></li> <li>• <i>Design-driven Innovation</i></li> <li>• <i>Market Paradigm Shift</i></li> <li>• <i>E.G. Lombardy</i></li> </ul>

# Stylised Highlights

- High RI-Low RV & SDI (Iceland). Possible to wrench an economy 'from fish to finance', but with catastrophic results yet change is nevertheless embedded
- High RI-High RV & DDI (Jutland). Relatively smooth branching to innovative pathways with evolutionary growth and diversity
- Low RI-Low RV & UDI (Värmland) Slow, low growth branching from pulp & paper to KIBS with structuration
- Low RI-High RV & Design DI (Lombardy) Regional paradigm and global socio-cultural regime shift from 'episodic' radical innovation (cf. long wave 'creative destruction' type radical innovation – where, arguably, the original 'path dependence' syndrome originated)

# Conclusions: New Path Creation

- 1. Main message: possessing or building variety in regional economies is generally a better regional development strategy than seeking to specialise, especially anew, in unrelated activity. In this respect Jacobs is a superior regional policy guide to Porter.
- 2. importance of the concept of 'innovation' to any discussion of path dependence and the emergence or creation of new paths. But nowadays at least four variable forms
- 3. Relatedness and its cognate transversality, which embraces regional variety and conscious policy action to exploit it, were shown to be important elements in any explanation of regional change.
- A Jacobs-Schumpeter framework facilitated a more nuanced path creation trajectory set than the 'windows of locational opportunity' or 'punctuated equilibrium' alternatives