Rethinking the Political Economy of Science, Technology, and National Development in South Korea: “Sociotechnical Imaginaries” Perspectives

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4S Annual Meeting,
October 28-31, 2009, Washington, DC
Sociotechnical Imaginaries

- **East Asian PE Literature**
  - Challenges neoclassical economics
    - Developmental state (Johnson, Wade, Amsden, etc …)
    - Technological innovation
      - National Innovation System (NIS)
  - Still, S&T treated as given, rather than problematized

- **Sociotechnical Imaginaries**
  - “Imagined forms of social life and social order reflected in the design and fulfillment of nation-specific scientific and/or technological projects”
  - Not simply sets of ideas and visions held by certain influential social groups, but collectively shared, deeper notions that are simultaneously descriptive and normative.
Case I: Nuclear Power

- **Trajectories**
  - Long-term plan for research, development and use of Nuclear Power (1969)
  - Atoms for peace and for war ← Distinction not so important in the Korean context (→ Atoms for national development)

- **Debates**
  - Democratization and the rise of anti-nuclear movements
    - Failed to effectively challenge the imperative to secure the nation’s future through domestic ownership of S&T.
  - Potential environmental and health risks
    - Constantly weighed against the risk of failing to develop, and tolerated, if not dismissed, often with public consent.
Case II: hESC Research

◆ Trajectories
  - Genetic Engineering Promotion Act (1983)
  - The world’s seventh largest bio-economy by 2010 (2001)
  - Biomedicine & bio-organs as “next-generation growth engines” (2002-7)

◆ Debates
  - At stake was the development of world-leading technologies, which many Koreans saw as one of the keys to national development
    • “Health” and “welfare” → more of a site for biocapital generation
  - Critics (many of whom were from the political left)
    • The government’s rush to stem cell research exemplified an unhealthy and undemocratic alliance between science, technology, the state, and commercial interests.
  → Distinctions between red and green biotech, and between biosafety and bioethics issues → Not so important
Case III: Nanotechnology

- **Trajectories**
  - Korea National Nanotechnology Development Plan (2001)
    - One of the world’s five most advanced nanotech nations by 2010
  - Nanotechnology Development Promotion Act (2002)

- **Debates**
  - Similar to biotech debates
    - Progressive civic NGOs are suspicious of the close alliance between science, technology, the state, and industry.
  - Article 19 of Nanotechnology Development Promotion Act
    - Legal basis for assessing the social, ethical and environmental consequences of nanotechnology, and for incorporating these results into policymaking
    - Lack of trust from NGO activists
## Dominant Sociotechnical Imaginaries and Their Discontents

<table>
<thead>
<tr>
<th></th>
<th>Dominant Imaginaries</th>
<th>NGO Critics?</th>
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<tbody>
<tr>
<td><strong>Future vision</strong></td>
<td>Advanced industrial nation (G7?)</td>
<td>More just &amp; democratic Korea</td>
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<tr>
<td><strong>Pressing societal needs</strong></td>
<td>Developing / Catching up</td>
<td>Deepening of democratization</td>
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<td><strong>Risks</strong></td>
<td>Falling behind</td>
<td>Being dominated by developmentalism</td>
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<td><strong>Development</strong></td>
<td>Power-centered and instrumental view of development</td>
<td>Alternative, reflexive, or post-development?</td>
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<tr>
<td><strong>S&amp;T</strong></td>
<td>Form of power / Instrument to achieve a wealthy and strong nation</td>
<td>True potentials of S&amp;T suppressed by developmentalism</td>
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<tr>
<td><strong>State</strong></td>
<td>Developmental state / Competition state / Workfare state – though increasingly its neoliberal variant</td>
<td>Should be transformed into a kind of green welfare state?</td>
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<tr>
<td><strong>Expert</strong></td>
<td>Serving the nation</td>
<td>Serving the people</td>
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<tr>
<td><strong>Public</strong></td>
<td>Dutiful members of the nation  →  should serve the national interest</td>
<td>Informed citizens  →  backbone of democratic society</td>
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<td><strong>Ethics</strong></td>
<td>Zero-sum game / Should not undermine national interest</td>
<td>Protection of human rights / justice</td>
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<tr>
<td><strong>Market</strong></td>
<td>Useful device for national development / Increasingly becoming the model for society</td>
<td>Threats to the public interest</td>
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