Contesting National Sociotechnical Imaginaries:
The Pre- and Early Politics of Human Embryonic Stem Cell Research in South Korea

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The Cultural Politics of the Life Sciences in Asia,
10-11 April, 2009, Leiden, The Netherlands
Introduction

.fs-Hwang Woo-Suk scandal

- Just a scientific fraud case?
- Research integrity crisis involving some bioethical issues?
  ➔ Continuation of the existing hESC debate

.fs-Sociopolitical landscape of the South Korean hESC debate

- 30% of the South Korean population are Christians – 18% Protestants; 11% Catholics (2005, National Statistical Office)
  - Debate over the moral status of human embryos?
    ➔ The Protestant and Catholic churches had only a limited role in the early phase of the debate.
- Most vocal and sustained critique came from a group of progressive NGO activists (feminists, environmentalists, consumer activists, public health advocates, etc.)
National Sociotechnical Imaginaries (1)

- Progressive NGO critique of hESC research
  - Not simply advocating bioethical arguments
  - Grew out of a more general campaign to impose strict control on new biotechnology (both medical and agri-food)
  - Broader concerns than any specific biotech applications or developments
    ➔ What the nation stands for, what its pressing goals are, what should be the proper place and role of S&T, etc.

- National Sociotechnical Imaginaries
  - “Imagined forms of social life and social order reflected in the design and fulfillment of nation-specific scientific and/or technological projects”
National Sociotechnical Imaginaries (2)

- **Historical Roots**
  - Late 19th century; Colonial modernization & industrialization
  - Sense of urgency to secure national survival & empowerment
  - S&T: Conceived primarily as a form of power and an instrument to achieve a “wealthy and strong nation”

- **Park Chung-Hee Military Regime (1961-1979)**
  - S&T: “source of power for accelerating economic development”
  - the state: responsible for planning & directing S&T activities
  - Scientists: “motive power for national development”; “pride of the nation”
  - Publics: dutiful members of the nation
  - “Nation-building through S&T”; “Technological self-reliance”
Imagining Korea as a Leading Biotech Nation

  - Genetic Engineering Promotion Act (1984)
    - Article 1 (Purpose): … to more efficiently develop and promote genetic engineering, as well as to facilitate its industrialization, and thereby to contribute to the sound development of the national economy

- **Kim Young Sam (1992-1997)**
  - BIOTECH 2000 (1994) → $20 billion by 2007; G-7 biotech capabilities by 2007; world market shares of biotech products to 5% by 2000

- **Kim Dae Jung (1997-2002)**
  - The world’s seventh largest bio-economy by 2010
  - 21st Century Frontier R&D Program (2001) → securing Korea’s indigenous capability for “future core” technologies (bio & nano)

  - Biomedicine & bio-organs → “Next-generation growth engines”
Emerging Politics of Biotechnology

**Need for biotech regulation**
- Regulatory vacuum
  - E.g. Guidelines for Research Involving Recombinant DNA Molecules → Prepared in 1984, but introduced only in 1997 when it was required for Korea’s accession to the OECD
  - Amendment of Biotechnology Promotion Act?

**Seeds of discontent**
- Environmentalists, feminists, consumer activists, public health advocates, etc …← student activism
- In contesting various state-led development projects, some of these activists began to extend their critique of developmental state to S&T.
  → Alliance for Biosafety and Bioethics (1998)
Korean Bioethics Advisory Commission

- **NGO challenges**
  - Dolly (1997); early human embryo at Kyung Hee Univ. (1998); Hwang Woo-Suk’s cloning of cows (1999); Korea Institute of Agri. Sci. & Tech.’s development of GM crops (1999), etc …
  - ABB: “runaway” march of biotech that would sacrifice “public interest” in the name of “national competitiveness”

- **Korean Bioethics Advisory Commission**
  - Inclusive ➔ Not just life scientists and medical practitioners, but also social sciences and humanities scholars, religious groups, and civic NGOs
  - ABB (esp. Center for Democracy in S&T) ➔ interested in the potential of the commission for democratic control over biotech
    ➔ attempted to broaden the agenda as much as possible
    ➔ no distinction between medical & agri-food biotech
hESC Research Under Dispute (1)

- **Media framing of the hESC debate**
  - hESC research without regulation (Hwang Woo Suk & Park Se-Pill) criticized by ABB/CDST activists
    - Science versus ethics over the moral status of human embryos?

- **ABB/CDST activists**
  - Pro-reproductive rights stance, yet supported a moratorium
  - Rationale → No public discussion about the social and ethical implications; no democratic social consensus; no regulation

- **Korean Bioethics Advisory Commission**
  - human embryo as neither a mere cell cluster nor a full human being but as a hybrid entity
  - The creation of human embryos for purposes other than pregnancy, as well as the creation of human-animal hybrid embryos, should be banned, but that the use of spare human embryos from IVF clinics might be allowed for medical research.
hESC Research Under Dispute (2)

- **Attack came from life scientists & bio-industry**
  - Korea Research Institute of Bioscience & Biotechnology
  - Federation of Korean Industries, the Bioindustry of Korea, and the Korea Biotechnology Research Association
  - 15 life sciences societies & a group of scientists including Hwang Woo-Suk
    - Demanded that the cloning of human embryos and of human-animal hybrid embryos should be allowed
    - The draft bill would risk the future of Korea’s bio-industry

- **Government**
  - Even before the KBAC prepared a draft bill, the government already decided to support hESC research (both SCNT and IVF)
  - In December 2001, stem cell research was chosen as one of the nine new 21st Century R&D Program projects. $120 million over the next 10 years
## Competing Sociotechnical Imaginations

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<td>Serving the people</td>
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<td><strong>Public</strong></td>
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