The Politics of Science and Technology Policy

US and European Comparisons

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New Politics of S&T Policy

- Shifts in post-industrial societies:
  - Decolonization and loss of extractive economies
    - “We have no natural resources” (UK scientist)
  - Knowledge as the new capital
    - Knowledge societies, knowledge-based economies
  - Sustainability as new objective and ethic
    - Emphasis on renewables, the “bio-revolution
    - Rethinking externalities: clean technologies

Political Salience

- US presidential politics 2004, 2008
- EU 2000-5 Lisbon Agenda for growth
- Competitiveness
  - R&D investment as indicator of progress
- Search for alternatives
  - E.g., energy, medicine, wastes
- New era of “enhancement”
  - E.g., crops, animals, drugs, humans

Goals and Instruments of S&T Policy

- Innovation
  - New products and processes (e.g., nutraceuticals)
  - New markets (e.g., developing countries)
  - New consumers (e.g., adult ADHD, ethnic drugs)
- Speed
  - Intellectual property: extension and harmonization
  - Bayh-Dole Act
  - User-oriented research
  - University-industry partnerships

Assumptions of Global Convergence: A Myth of Neutrality

- Scientific objectivity and technological inevitability
- Innovation equated with progress in welfare and growth in economies
- Linear model of investment, innovation, welfare
- Biophysical notions of safety
- Market as arbiter of directions of change

Shocks and Surprises

- Post-mad cow resistance in Europe
- Failure to harmonize European IP rules
- European resistance to US GMOs
- Korean resistance to US beef
- African resistance to GM crops
- European “crop terrorism”
- International vaccine resistance and controversies

Policy Assumptions Revisited: Unexpected Cross-National Variations

- Countries differ:
  - In how they imagine the publics to be served by S&T policy (homogeneous, needy, sick)
  - In whether they want to accept risk or take precautions
  - In their preferred modes of using evidence and reasoning
  - In how they allocate responsibility for possible harms
- Publics also differ in their needs, perceptions, risk assessments, and rationalities

Why markets are not enough…

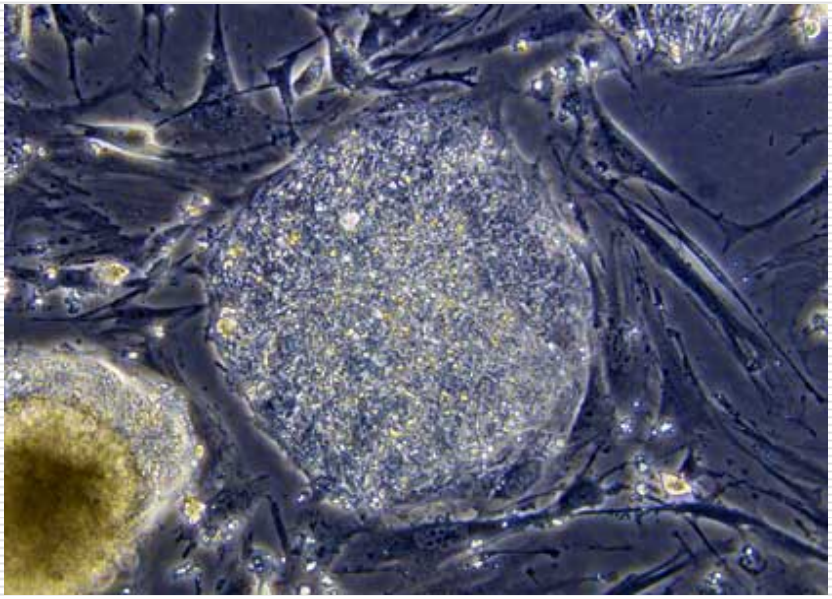
- Product focus: too little, too late
- No allowance for social ambivalence: early entrants define the framework
- Considers only market values: efficiency over intensity; change over continuity
- Forgetful instrument: ignores failures; little accountability

→ Markets are not democratic.

The Politics of New Things

- What sorts of entities do we want in the world?
  - H-bombs, GM foods, GHGs, human genome, embryonic stem cells, chimeras, nanodevices?
- Who makes (should make) these choices?
  - Experts: scientists, politicians, ethicists?
  - Publics? Which ones?
- What if groups don’t agree on “the good”?
  - Are there forums for airing disagreements?
  - Are there institutions with authority to resolve them?

ESCs: Contested Scientific Creations



- US: Make only with private funds
- UK: Make only with governmental approval
- Italy: Make only with somatic cell nuclear transfer
- Germany: Don't make at all
- Korea: Make in the national interest

What is at risk from new technologies?

- Hazardous properties of technological materials, products, events, or behaviors are only one aspect of risk.
- These risks are physical, biological, and environmental.
- But there are other important risks:
  - Social: instability
  - Economic: loss of livelihood
  - Political: loss of control
  - Moral: damage to fundamental ethical beliefs

What should policymakers analyze when sponsoring new technologies?

- Social as well as physical risks
  - Threats to culture, community, responsibility
- Ethical as well as economic impacts
  - Distribution, fairness, justice
- Past as well as future experiences
  - Experiences of vulnerability and resilience
- Participatory as well as preventive methods
  - Political institutions and resources

Implications for Democratic Policy:
Bringing Society Back Into Governing Technology

- Moratoria (stopping technology) not dynamic or interactive enough from social or scientific standpoint
- Regulation allows us, in principle, to monitor technological and social change
  - Novelty in production
  - Novelty in use and uptake
- Regulation oriented to process, not products
  - Beyond single objects, individual standards
  - Attention to synergy, changing uses, long-term effects
- Regulation for knowledge production and use
  - Develop more social “regulatory sciences”