Governing the Governance of Emerging Technologies

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Governance of Emerging Technologies: Law, Policy, and Ethics
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Introduction
Governance

- Multi-party/multilevel responsibility and decisions
- Mixture of tools
- Participatory
- Reflexive
- Adaptive
Many Emerging Technologies ...

- Biotechnology
- Nanotechnology
- Personalized Medicine
- Neuroscience
- Synthetic Biology
- Artificial Intelligence
- Surveillance Technologies
- Social Media
- Robotics
...Each Raising Similar Complex Sets of Issues

- R&D Funding
- Commercialization
- International Competitiveness/Harmonization
- Intellectual Property
- Health/Safety/Environmental Risks
- Social and Ethical Concerns
- Public Perceptions
- Government Oversight
- Multiple “Soft Law” Initiatives
- Rapidly changing technology
Need for Institutional Issue Manager?

- Possible Functions:
  - Information Collection
  - Coordination of Actors
  - Forum for Stakeholders
  - Recommendations/reports
  - Oversight Guidance
  - “Orchestra Conductor?”
Precedents/Models?
Biotechnology: Coordinated Framework

- OSTP published Coordinated Framework for Regulation of Biotechnology Products in 1986
- Assigned responsibility for different biotech products/risks to 6 different agencies under matrix of existing statutes
Nanotechnology:
National Nanotechnology Initiative

Federal Coordinating Structure for National Nanotechnology Initiative

NSTC/OSTP

PCAST

Nanoscale Science, Engineering and Technology Subcommittee

Industry workgroups
- Electronics
- Automotive
- Chemical

Independent Agencies
CPSC, EPA, FDA, NASA, NRC, NSF, ITIC

Departments:
DOE/DOEUSPTO, DOC, DOE,
DOJ, DOS, DOT, DOT/Trains, DHS,
USDA, NIOSH, NIH

Federal Nanotechnology R&D in the U.S. is coordinated by the NNI
Pew Centers

- Biotechnology
- Climate Change
- Project on Emerging Nanotechnologies
- Neuroscience and the Law
Nanotechnology: “Nano Stewardship Council”

“NGOs, business, government and others should establish a Nano Policy Forum for discussing nano oversight issues and developing needed tools. This body should be tasked with considering the longterm value and development of a multi-stakeholder Nano Stewardship Council modeled generally on other collaborative mechanisms. The forum could be funded in equal amounts by government, foundation and business resources or be the subject of a specific congressional appropriation. It would provide an ongoing, neutral forum for discussions on nanotechnology policy issues and options and a clearinghouse for information.”

Daniel Fiornio
Synthetic Biology: Bioethics Commission

- Government should create “an iterative, deliberative process” for oversight of synthetic biology that “allows for the careful consideration of moral objections to synthetic biology”
- But did not endorse NNI type coordinating structure
White House Emerging Technologies Interagency Policy Coordination Committee (ETIPC)

• Created jointly by OSTP, OIRA, and USTR in 2010
• Consists of assistant secretary-level representatives from about 20 Federal agencies
• Goal: “open consideration of policy questions” raised by emerging technologies “with the full range of stakeholders, including governments, industry, non-governmental organizations, academia, and the public”
A Proposal
GOVERNANCE COORDINATION COMMITTEE (GCC)

- Coordinate activities of the various stakeholders
- Modular
- Comprehensive monitoring
  - Flag issues/gaps
  - Find solutions within the robust set of available mechanisms
  - Mandated to avoid regulation where possible
    - Soft Governance
- Nimble/Flexible/Adaptive/Lean
- Credible vehicle
Stakeholders in Scientific Development

- Public
  - Technology engine of innovation and productivity
  - Minimize harms
- Legislators
  - Tension between stimulating economic growth and minimizing harms
    - New regulations postponed until action is forced (disasters?)
    - Response to yesterday’s challenge (disaster can’t be repeated)
  - Source of Funds (R&D and Government Purchasing)
- Regulatory Authorities
  - Concerned they will be held responsible for new harms.
  - Limited resources
Stakeholders (2)

- Industry
  - Self-regulation vs. Govt. regs.
    - Cartel
    - Stimulated self-interest
- Scholarly Community and NGO's
  - Source of innovative ideas and research
  - Critical of unsubstantiated claims
    - Watchdog
    - Concerned ignored or unnoticed
- Media
  - Disseminator of information and education
  - Exacerbate bias, rumors, misinformation, and unwarranted fears
Monitoring–Managing–Modulating

- Monitor
- Manage
  - Help the various stakeholders appreciate why cooperation in the building of a robust set of policy mechanisms lies in their interest.
- Modulate
Influence

- Good Faith Broker
- Industry – Carrot and stick
- Report to the legislature and executive
  - Potential harms in the system of existing mechanisms
    - Isolate from tangential concerns
  - Funding
  - Lowering liability
- Do not usurp authority of regulating agencies
- Listen to scientific and academic communities and NGO’s
- Reports to funding sources and for the public
  - State of a technology’s development
    - Speculation v. real harms – cross technological thresholds
- Source of credible information for the media
Issues

• Authority/Legitimacy
• Adequate influence
• Members/Administrators
• Establish credibility
• Government v. private
• Funding GCC
• Accountability
• Too complicated? Hopelessly naive?
Thank You!

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