T49 L

January 11, 1994

Annotated Table of Contents

Science & Technology in American Government
[working title]

Jesse H. Ausubel and Joshua Lederberg

Foreword - David A. Hamburg
Origins of the Carnegie Commmission on Science, Technology, and Government, (CCSTG), what was accomplished
Source: Press Release announcing formation of CCSTG

Preface - William T. Golden and Joshua Lederberg
How the CCSTG carried out it work, purpose of this book, audience

Acknowledgements

1. Introduction and Overview (20 pp double-spaced)
[Scope & plan of the book]

Book addresses:
1) Science for Policy
   a) Science and engineering as *ways of thinking* that inform decision-making
   b) Science & technology as *specialized knowledge* that informs decision-making
2) Policy for Science
   How decisions are made about S&T

Time horizon, the past 50 and next 20 years; what is meant by science and technology in this context; what have science and technology transformed in the past 50 years (examples, warfare, production, environment, health); why focus on organization and decision-making; relevant analytic frameworks from the social sciences; previous scholarship in the area; primer on U.S. political organization and culture (explain briefly roles of branches of government, states)

Sources: e.g., 1st Congress report on role of Congress, W. O. Baker, H. Brooks, A.H. Dupree, W.T. Golden, J. Lederberg, M. Polanyi, D. Price, A. Weinberg, etc.

2. Growth and Diffusion of Science in American Government (20 pp)
[History and Data Chapter]

Creation, diffusion, and growth of relevant and exemplary institutions, positions, and personnel in all branches at both federal and state levels; baseline information of key dates, numbers, etc.; identification of broad seasons, cycles, and eras of organizational growth and change to the extent they exist

Sources: e.g., Campbell reports, Prune Book, B. Smith books, "historical" sections of several CCSTG reports, Hannan and Freeman on population ecology of organizations

3. Is There a Problem? (20 pp)
[Establishing an analytic framework]

Generic problems of inputs to decision-making, processes, outcomes with examples; conflicting and contrasting estimates and perceptions of problems; framework for understanding the variety of perceptions and diagnoses: top-down, bottom-up, and other views; e.g., information shortage v. information glut, problems of inertia v. benefits of stability

Sources: M. Douglas, A. Wildavsky, Y. Ezrahi, O. Williamson, S. Jasanoff, C. Lindblom, A. George, N. Luhmann, J. Habermas, J. March, etc.

4. Views from the Top (30 pp)

Need for rather informal, loosely structured, adaptive networks, clubs, marketplaces, entrepreneurship, leadership

Science Advisor; PCAST; Science 60; Members of Congress (S&T Study Conference); Governors (Compact of the States); Judges (judicial education, special masters, etc.); NAS; Carnegie Group of Science Advisors; ICSU; S&T Fellows (e.g., AAAS); JASON, DSB and other elite advisory groups

Sources: relevant portions of all CCSTG reports, Dam Report, Prune Book

5. Views Inside the Pyramid (50 pp)

Needs for clear charters, coordination, analysis, planning, evaluation, professionalization; problems of classic dysfunctions of bureaucracy; problems don't map neatly onto organizational units

Sections on:

White House & EOP, e.g., E^3, Risk
FCCSET
Economic Performance/Dept. Commerce
Math & Science Education/NSF & DEd
National Security/ DoD, nARPA (dual use)
Health/ HHS (biology vs. economics)
Environment/ EPA, DOI, NOAA et al.
Health & Safety Regulation/ FDA, OSHA, EPA, et al
International Relations/ State
International Development/ AID
Congressional Agencies: OTA, CRS, GAO, CBO
Judiciary: FJC
Goals Forum

Sources: Relevant sections of all CCSTG Reports, J. Q. Wilson, O. Williamson

6. Views from Below (20 pp)

Need for modesty, avoidance of manipulation

Scepticism about expertise, flawed performance of experts, peers v. experts, wariness of institutions

Sources: Yaron Ezrahi's Descent of Icarus, Vaclav Havel's Davos Forum speech

7. Views from Outside (30 pp)

Need for critical, truculent, pesky groups; corruption of the Republic of Science; conflicts of interest; preference for egalitarian styles, openness and participation, voluntarism

NGOs: problems in governance, funding, reliability, impact

Problems in the social organization of science itself

Preference for transient organizations, need for consortia to address particular issues

Sources: NGO report, D. Nelkin

8. Paradoxes and Mismatches (20 pages)

Who can play both roles: scientist and politician - the values of disinterestedness and detachment under stress

We want the best people to serve but make it hard to serve

We want public entrepreneurship but penalize risk acceptance

We want transparency but also informality and confidentiality

University/government: Science as an elite, individualist activity supported by agencies whose cultures oppose this

Science & Democracy

World technologies and national sovereignty

Global citizenship and national interests

...[others]

Sources: Warren Hagstrom, S. Jasanoff, Y. Ezrahi, F. Seitz, D. Chubin's OTA Report on Federally Funded Research

9. Harnessing the Full Power of Pluralism (15 pp)

What for: Challenges of the next 20 years affected by S&T, e.g., changes in life span, zero emission energy systems, reduction in lifetime working hours

How: Make all the active voices strong and informed; enable them to interact in a balanced way; accept full organizational ecology of science advice and a dynamic view of organizational change and sectoral interaction

Closing speculations: Where some of the greatest perils and opportunities lie

Sources: C.S. Holling, J. Schumpeter

Bibliography

Appendices (optional):

Carnegie Commission's Top 20 Recommendations

List of Commission publications, papers

List of members of Commission, Task Forces, consultants

Index