

CARNEGIE COMMISSION ON SCIENCE, TECHNOLOGY, AND GOVERNMENT

MEMORANDUM

To : Commission Members  
Advisory Council Members

From : David A. Kirsch *DAK*

Date : December 10, 1989

Subject: Minutes and Action Items Resulting from  
Commission Meeting, November 12-13, 1989.

Summary of Major Items:

- The Commission approved the report of the Task Force on Environment and Energy. It will be transmitted after comments from members of the Commission and Advisory Council have been incorporated.
- The Commission approved the formation of a Task Force on Organization for Science, Technology and Development. President Carter will chair the Task Force; and Advisory Council member Rodney Nichols will serve as Vice-chair.
- The Commission approved an exploration of Phase II of the study of scientific and engineering personnel in government. A decision on how to collaborate with the National Academies of Science and Engineering will be made pending the completion of Phase I by the Office of Scientific and Engineering Personnel of the National Research Council.

Participants:

The fourth meeting of the Carnegie Commission on Science, Technology, and Government was held on November 12-13 1989, at the Rockefeller University and at Carnegie Corporation offices in New York. Participants included:

William T. Golden (Co-Chairman)  
Joshua Lederberg (Co-Chairman)  
John Brademas  
Lewis M. Branscomb  
William T. Coleman  
Daniel J. Evans  
Andrew J. Goodpaster  
Shirley M. Hufstedler  
Bobby R. Inman  
William J. Perry  
David Z. Robinson (Executive Director)  
Robert M. Solow  
H. Guyford Stever  
Sheila E. Widnall

In addition, David A. Hamburg, President of Carnegie Corporation of New York, and Rodney W. Nichols, a member of the Advisory Council, were present.

Staff members David Beckler, Jesse Ausubel, Mark Schaefer, David Kirsch, Margaret Holland, Jennifer Catlett, and Laura Hyatt also attended. Jon Bender, assistant for the Task Force on S&T and Judicial and Regulatory Decision Making, was also present.

These minutes do not repeat information previously included in the briefing book prepared for the Commission meeting.

#### Chairmen's Report:

Joshua Lederberg, William Golden and David Hamburg each made brief opening statements. Hamburg stressed the perspective of the Commission: what should the long-range institutional landscape look like? Lederberg then reviewed the discussion from dinner the evening before on the draft report of the Task Force on Environment and Energy.

The agenda for the meeting was revised to reflect the schedule of several Commissioners.

#### Science, Technology, and Congress:

John Brademas summarized the results of the first meeting of the Committee on Science, Technology and the Congress. The meeting had taken place earlier that morning at Carnegie Corporation offices. Commissioners Jimmy Carter, Daniel Evans, Charles Mathias, and Guy Stever have agreed to serve on the Committee.

Mark Schaefer, from the Office of Technology Assessment, has joined the Commission staff to coordinate this activity. He will be based in Washington.

Hamburg noted that the Congressional Committee meeting had been useful and informative, and he requested that the briefing materials prepared for the meeting be circulated to all the members of the Commission (this material has been sent to the Commissioners under separate cover; it is available to members of the Advisory Council upon request).

The Committee agreed that its first activity would focus upon "External S&T Analytical and Advisory Mechanisms", including the use of hearings, consultants, rapid response technical analyses, and other external sources of information and advice.

### Environment and Energy Task Force Report:

Guy Stever introduced the report of the Task Force, summarizing the comments that had been made at dinner the evening before. In particular, he asked the Commissioners to consider whether the report successfully "describes the problem" and whether it presents feasible options for dealing with the problem.

Questions centered around how the report would be received by various actors in the environment, energy, and economy triangle. Should the report be circulated in advance for comment to various environmental action groups who regularly participate in public debates about environmental policy? How might the Council of Economic Advisers and other offices within the Executive Office receive the proposal? And who would chair the proposed CE3, the environmentalist, the energy specialist, or the economist?

B. R. Inman stressed the importance of sustaining and coordinating international data collection relevant to environmental policy. William Coleman suggested the report identify more sample issues where environment, energy, and economy have resulted in internal conflict. William Perry stressed the importance of the interface between the various disciplines. Others also made recommendations which were noted for incorporation into the final report.

The Chair then asked the Commissioners about the disposition and dissemination of the report. The consensus view expressed was that the report should be endorsed as a report of the Commission, revised as discussed at the meeting, and disseminated broadly (after private transmission to the selected key individuals).

### Science, Engineering, and Math Education:

Lewis Branscomb spoke about Commission efforts undertaken since the May meeting. Several issues papers have been prepared, and Branscomb and David Robinson have met with D. Allan Bromley and Erich Bloch to discuss how the federal government could help improve the current situation, following up on the goals outlined at the Charlottesville education summit.

Branscomb noted that the Department of Energy, under Secretary Watkins, has led the Administration response to the summit, and that the new President's Council of Advisers on Science and Technology (PCAST) will take up the issue of the federal role in science education as its first item.

Branscomb outlined three goals for Commission activity in the education area:

- 1) Try to ease the political tensions between and among the President, the Congress, and the Governors.

- 2) Emphasize limited, but attainable goals in science and math education, focussing on doing a better job with existing resources such as the national laboratories.
- 3) Use federal activity to leverage structural reform, including the transition of NSF from a passive to an active role, the strengthening of the Department of Education, and the development of a working model for continuing federal-state dialogue.

Hamburg commented that recent events do represent a window of opportunity to achieve educational reform. Shirley Hufstedler noted the disproportionate influence of interest groups in the education field; and Inman supported government-operated demonstration schools, particularly for demographically disadvantaged groups.

Discussion continued through lunch, but the Commission did not resolve how to proceed in this area.

#### Science, Technology and the States:

Dan Evans spoke briefly on the role of science and technology in state government, noting that the states are good at picking up ideas developed elsewhere and adapting them to their own needs. This is particularly true in the area of S&T and economic development, although Evans cited several other areas as well.

Regional cooperation was discussed, as was the need for incentives to encourage transfer from the national laboratories.

Inman commented on his experience in Texas and with MCC. He feels that he may have done more for the states who lost bids because he told them why they lost, and many refined their development strategies as a result.

Evans highlighted the preliminary nature of the current investigations, suggesting that the Commissioners should begin to think about how to integrate the states into an overall strategy.

#### Science and Technology and Economic Performance:

B. R. Inman summarized the 12 November meeting of the Task Force on S&T and Economic Performance, focussing on creating technology from our science base, on using that technology, and on the role of government as an investor in technology.

Institutional mechanisms proposed included a Civilian Advanced Research Projects Agency (CARPA) and an expanded role for DARPA as a National Advanced Research Projects Agency (NARPA).

Perry's remarks from the meeting were also summarized. With defense budgets likely to shrink, investments in the technological base are more crucial than ever, and efforts will be needed to improve technology transfer. The DoD will need to purchase substantially more commercially available technology.

Barriers to achieving these goals were summarized (military specifications, security against technology leakage, procurement regulations, government accounting standards).

Inman noted functional concerns about how NARPA would differ from DARPA. What about incremental functions like health, education, energy? Would NARPA support additional demonstration projects and prototyping?

The Task Force plans to meet twice and prepare a report on the topic during the next six months.

#### Science, Technology and International Affairs:

Two of the Commission's three international topics were reviewed: science and technology and development; and U.S. foreign policy and science and technology.

William Golden and Rodney Nichols presented the results of an exploratory workshop, "International Development: Organizing to Harness the Potential of Science and Technology". The workshop was held at the Carter Center, 29-30 October, and was chaired by President Carter. Carter was an active participant in the discussion and expressed his desire to lead a Commission Task Force in this area.

Nichols summarized the workshop agenda as follows:

- 1) Short-term, domestic issues were mentioned, including the "hollowing out" of the U.S. Agency for International Development, the lack of a coherent investment strategy with respect to U.S. foreign aid, and the weakness of assessment and evaluation mechanisms.
- 2) Long-term issues relating to the role of multilateral development agencies, the social and political changes within the developing countries, and the rise of new institutions were discussed separately.

The results of the workshop, combined with President Carter's willingness to be personally involved and a rapidly evolving international climate, point to the formation of a Task Force on Science and Technology and Development. The Commission endorsed the formation of a Task Force with the membership to be approved by the Executive Committee.

Nichols also announced plans for a second preliminary international workshop to focus on science and technology and foreign policy. A steering committee will meet in late November to plan the workshop, tentatively scheduled for March 1990.

#### Executive Office--OSTP Feasibility Study:

William Golden introduced the Commission's follow-up study to the Science & Technology and the President report. Shortly after his appointment, D. Allan Bromley contacted the co-chairs to express his view that the Assistant for Science and Technology may need additional research and analysis capability above and beyond that which is available within OSTP.

David Beckler further described the genesis of the study, noting the creation of a steering group to oversee the study and the selection of William Wells, former staff director for the House Committee on Space, Science, and Technology, to perform it.

Issues discussed include:

- 1) The need for long-range analytic studies;
- 2) The need for complementary analysis, rather than replacing existing functions performed by staff;
- 3) The need to test the political waters, both in the Executive Office and on the Hill, to determine the feasibility of proposing such a change; and
- 4) The need to balance independence of analysis with clear access to a receptor site in the Executive Office.

Several options were explored:

- 1) Strengthening the staff of OSTP;
- 2) Establishing an independent research and analysis unit outside the government, funded privately at first, but later switching to public support; and
- 3) Using a reformulation of the PSAC model, based upon standing committees and ad hoc committees made up of PCAST members with independent budgets for analytic studies.

RAND, IDA, MITRE and other institutions are being reviewed as models for this research and analysis capability.

Respondents indicated some skepticism about the prospects for success, especially with respect to sustainability and definition of functional needs, but encouraged completion of the feasibility study.

Executive Branch--S&T Personnel:

Following up on the interest expressed by the Commissioners at the May Commission meeting, the Commission has entered into an arrangement with the Office of Scientific and Engineering Personnel of the National Research Council to undertake a preliminary (Phase I) study of the issues facing the government in attracting and retaining high quality scientists and engineers. The study will address both Presidential appointees and career civil servants.

These issues have gained visibility recently as agencies confront the problem of "hollowing out" and the pace of recent appointments. Allan Bromley, Frank Press, and Bob White have become interested in the subject. Press and White have offered to provide \$100,000 of matching funds to go towards a Phase II report on possible remedies.

Approval was given to explore Phase II, either as a fully funded joint collaboration with the National Academy complex, or in a more traditional, contractual relationship.

/dak