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Evolution of the Decision-making Machinery of Government and Parliament

Report by

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"A New Approach to Decision-making : The Office of Technology Assessment of the United States Congress"

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I. THE HISTORICAL BACKGROUND AND ORIGINS OF THE OFFICE OF TECHNOLOGY ASSESSMENT

1. The United States Congress has a long history of seeking ways to improve its own decision-making machinery. At various points in its comparatively brief 200-year history the Congress has changed its procedures and in some cases added special research organisations to improve its decision-making ability.

2. These improvements have always come in response to the special needs of the time. This is particularly true in the area which is the focus of this paper, the area of special support and advisory mechanisms for the Congress.

3. In the early years of the Congress when the need was for basic information, the Congress established a library to meet this need. The Library of Congress, begun modestly in 1801, has since become, in effect, the American national library. However, it continues to serve the Congress through its extensive collection of books in many languages.

4. A hundred years later the Congress found that the simple availability of a good reference library was not enough. Within the Library of Congress a Congressional Research Service was therefore set up. This is a separate organisation located within the Library of Congress. Today the Congressional Research Service has a staff of 703 and provides a wide range of services to the members and committees of the Congress. These services range from the compilation of bibliographies, data, legislative histories and background papers to speech drafts, development of pro and con analysis, and in-depth reports on diverse issues. For the most part this work is based on the extensive use of the resources of the Library of Congress.

5. Immediately following the first world war the Congress became conscious of a need for improved control and oversight over the financial affairs of the government. It therefore established an office with special competence in financial auditing, the General Accounting Office. The General Accounting Office today has a budget of $ 124 million and a staff of 5,188. This staff includes 2,493 accountants, 486 business administration and management specialists, 186 lawyers, 147 economists and social scientists, 33 computer specialists, 31 engineers and a number of other specialists. Like the Congressional Research Service, it works exclusively for the members and committees of the Congress. In recent years it has branched out from the narrow auditing function to include in the services it performs for the Congress economic analysis of military, social and other programmes.

6. Just last year the Congress, in an effort to further strengthen its ability to cope with the annual government budget, established new budget committees in both the upper and lower chambers. These committees each have a staff of between 60 and 70, and they will be supported by a Congressional budget office which is expected to grow to about 100 people.

7. In the years following the second world war the American Congress came to the realisation that developments in the post-war years presented yet another demand on the legislative process. A new dimension of profound importance was added to a wide spectrum of the policy issues facing the Congress. This new dimension was the massive impact of scientific and technological advances which led to the establishment of the Office of Technology Assessment.

8. The Office of Technology Assessment (OTA) began its work in November 1973. It now has a diversified staff of 87. Of these 11 are consultants on various subjects who are with us for a fixed time-period. We have also on loan to us from several different agencies of the government 5 specialists on various subjects, and we have a group of 5 scientists who come to us from universities as one-year fellows. The remainder are permanent professionals who are supported by 21 secretaries and other staff support people. In each programme area OTA appoints a panel of informed people from the private sector, expert consultants as needed, and often contracts for qualified assessment and study. It is, thus, a combination of internal management and staff activity, coupled with private sector involvement, that must get the work done.

9. The product of our work takes a number of forms. We are very conscious of the need to shape both content and format to the needs of the users in the Congress Let me give a few examples.

II. TWO EXAMPLES OF SHORT-TERM ASSESSMENT: HEALTH AND THE ANNUAL ENERGY RESEARCH AND DEVELOPMENT BUDGET

i. Health

10. Last year one of the Committees in the Senate was well along with the development of legislation in the field of health. At that point it became clear that one of the important policy issues which had to be resolved was the issue of generic names versus trade names for prescription drugs. In simple terms the issue was whether drugs sold at high prices under the private label of individual companies are medically equivalent to drugs sold at much lower prices under the Latin or generic names.

11. The Senate Committee needed an evaluation of this particular policy issue. In order to respond the OTA brought together a panel of 10 scientists to review the scientific evidence. A distinguished professor of medicine from a prominent university was appointed to serve as Chairman of the study panel. Within 3 months this group produced a report which concluded that current standards and regulations practiced do not insure bioequivalence for drugs, and there were other recommendations as to how to bring this about.

ii. Energy research and development

12. The Office of Technology Assessment has done a number of similar short-term assessments for the Congress. Earlier this year, for example, at the request of a Committee of the House of Representatives we did an in-depth analysis of the annual budget for the Energy Research and Development Administration. In this case the Congressional Committee had scarcely two weeks from the time the budget was made public by President Ford to the time that authorisation hearings before the Committee were to begin. The OTA assembled a panel of energy experts and a working task force of skilled consultants who analysed all aspects of the proposed budget, identified pro and con arguments for each programme element, raised questions that needed to be answered, and prepared brief background papers on each issue.

13. While originally intended as a rush effort to help prepare committee members and staff for the hearing process, this analysis has since developed into a printed document published under the heading of the 3 separate committees which found it useful in their legislative work. During the course of the hearings in one of the House Committees, the information in this assessment served to justify the Committee's approval of an addition of $ 250 million for increased research and development in the areas of energy conservation, solar energy and geothermal energy sources. This analysis has been followed by a summer-long evaluation of the ERDA plan and programme which is now being used by various of the congressional committees and which is particularly appropriate in view of the major influence these goals and priorities will have on this nation's economy, quality of life, environment etc.

III. THE OCEANS ASSESSMENT PROGRAMME

14. The Office of Technology Assessment is also engaged in a number of much larger assessment studies. These are of course much more comprehensive in scope and therefore much more extended in time. Let me discuss here only one of these: our Oceans Assessment Programme.

i. Designation of a priority area

15. In February 1974, the OTA Congressional Board designated the oceans area as one of its highest priorities and authorised the OTA staff to proceed with the development of specific assessment proposals. Congressional needs for independent information in this critical area increased over the ensuing months and additional assessment requests were submitted by 3 different Senate committees.

16. The OTA project management staff, which includes individuals with expertise in issues involving oceans technology, performed an analysis of the already existing studies on this subject, including those recently performed at the request of other government agencies such as the National Science Foundation and the Council on Environmental Quality. Information previously developed through congressional hearings was reviewed, on-going hearings were monitored, and North Sea oil drilling and staging sites were observed at first hand.

17. This staff effort culminated in May 1974 with the convening of a 3-day meeting between the OTA staff and a 9-member "ad hoc" panel of experts, headed by Professor Don E Kash of the University of Oklahoma. Professor Kash had headed an earlier assessment of outer continental shelf oil and gas technologies, done for the government. Legal, environmental, economic and biological experts were included, as were spokesmen for industrial and governmental interests. This panel conducted an intensive review of the strengths and weaknesses of the existing "Bonus Bid" leasing system employed by the Department of Interior for assigning exploration and production rights to lands lying beyond the 3-mile limit. Under the Bonus Bid system private companies bid for the drilling and production rights to a specific, 9-square mile tract of the ocean floor. The highest bidder pays the government an initial cash bonus and royalties on oil production only. While this system is administratively simple, it is less efficient than drilling exploration of an entire undersea structure, and the risk to the individual company is substantially higher. A report answering specific questions raised by the Judiciary Committee of the House of Representatives was prepared by the panel.

ii. <u>The recommendation for "site specific" assessment of the probable impacts of offshore technologies</u>

18. From the viewpoint of subsequent OTA activities, the significant recommendation provided by the OTA ad hoc outer continental shelf advisory group was that any detailed assessment be limited to a specific coastal region. The panel pointed out that the outer continental shelf surrounding the United States from Alaska to New England is a vast and varied region, which does not lend itself to generalised study.

19. Accordingly, the OTA staff proposed - and the OTA Board approved - a "site specific" assessment of the probable impacts of offshore technologies proposed for use off the coasts of the states of New Jersey and Delaware. This particular site was chosen for two critical reasons. First, it was apparent through OTA's staff analysis that the Interior Department's earliest nominations for accelerated outer continental shelf oil and gas leasing would be targeted for the "Baltimore Canyon" region lying along the Atlantic coast adjacent to the mid-Atlantic shores. Secondly, the area was picked because two other technologies - offshore siting of nuclear power plants and deep-water ports for super-tankers - had been proposed for the coasts of these two states. While studies of these individual technologies had been undertaken, no analyses had been performed which took into consideration the possible combined effects of siting these three technologies within a common coastal region.

20. In order to obtain strong expert guidance, and to afford an opportunity for participation by various parties from industry to consumer, an 11-member citizens' advisory panel was appointed for the project. This panel is under the chairmanship of Dr. Richard Sullivan, former Commissioner of Environmental Protection for the state of New Jersey and now a lecturer at Princeton university. Included on the panel are representatives of the oil industry, private power utilities, labour unions, public interest groups, experts on public policy issues, marine geology and ecology, fisheries, resources, and state officials of both New Jersey and Delaware. This very active panel assisted the OTA project staff in designing the study plan, in selecting contractors to assist performance of the assessment, and is continuing to assist in overseeing the study as it progresses.

21. The assessment of new use demands on the coastal zone and offshore areas of New Jersey and Delaware was formally begun in November 1974 and is scheduled for completion this October. A two-way flow of communication has been established between

the elements giving guidance to the assessment and the team which has been assembled to carry out the basic study tasks. The three "guidance" elements are the OTA oceans project staff, the congressional committees interested in the study, and the project advisory panel mentioned previously.

22. The overall contract team is headed by Dr. Hans B Schecter, Director of Energy Systems and Civil Programmes for the private research firm of Braddock, Dunn and McDonald. This company was the successful bidder for the project. Included in Dr. Schechter's team are two sub-contractor firms and more than a half-dozen consultants recruited to provide expertise in a variety of technical, social and policy areas. As these resources have come together and the initial phases of the assessment have been performed, OTA has been able to marshall preliminary data and informed manpower to respond to related congressional inquiries.

iii. The parallel exploitation of data and information obtained from on-going studies

23. One of the interesting developments which we have experienced in the work of the OTA has been the desire and the need to use the data and information which is obtained while an assessment is still in progress. In many cases we are not waiting until an assessment is completed before we make use of the expertise we have built up to begin closely related studies. For example, although the basic assessment is still some months from final completion, OTA has expanded its activities in the oceans area to include 5 additional projects, each of which builds on the base of expertise developed in the performance of the on-going major study. These "add-on" projects include:

- a detailed analysis of the Interior Department's announced plan for accelerated outer continental shelf leasing;

- a task force study of the feasibility of separating exploration from production of outer continental shelf oil and gas;

- a basic primer of policy issues raised by the growing use of super-tankers carrying large volumes of petroleum products;

- an experiment in public education and assessment of public attitudes regarding the impacts, both positive and negative, of coastal zone technologies;

- a planned study of the effects on national growth patterns that may result from the establishment of major new energy facilities within the coastal zone.

iv. The challenge of public participation

24. OTA's effort to provide new opportunities for public participation has been particularly challenging. The problems of reaching a broad range of citizens and the difficulty of fully explaining, not only the technologies proposed, but the objectives of the assessment process, require a good deal of effort. Questionnaires, meetings, the media, and personal contacts are all being employed in this task, and a brochure has been forwarded to some 15,000 people from whom there has been considerable response.

v. The use made by Congress of the results so far obtained

25. Information which has been independently developed for the Congress by the OTA Oceans Assessment Programme, has already been directly utilised in Congressional deliberations. Last January, preliminary information from the OTA super-tanker study provided background information for hearings by a Senate Committee on that issue, as a committee print of the Senate National Ocean Policy Study by the Senate Commerce Committee. The OTA task force analysis of alternatives for outer continental shelf exploration formed an information base for joint hearings held earlier this year by the Senate Interior and Insular Affairs Committee and Senate Commerce Committee. The sub-committee of the House Appropriations Committee, which deals with the Department of Interior, utilised the OTA study on accelerated leasing in preparing for its departmental hearings, and requested a briefing on the subject by OTA staff personnel.

26. The issues which Congress has asked OTA to address further include:

- How can federal offshore petroleum deposits be identified and quantified so that they can intelligently be included in our overall national energy planning?

- How can the development and subsequent depletion of these resources be managed so as to best serve the long-term national interest including a fair return to the US Treasury?

- How can such resources be recovered most effectively and with least harm to the environment?

- How can the interests of the citizens and their state and local governments in the coastal zone best be taken into account in setting national policy for the utilisation of outer continental shelf petroleum resources?

27. All of these technology assessments by the OTA, of course, are only pieces in the total information picture assembled by the committees of the Congress. However, these contributions have been particularly timely and particularly relevant to public policy issues of urgent national concern, not only to coastal zone residents but to energy consumers across the country.

28. The final answers to the questions which the OTA receives, and the important policy decisions that attempt to resolve them, can only be made by elected representatives in the Congress. OTA's role is to provide objective information and to identify alternative courses of policy action. Since the completion on 1 April of the OTA study of alternative approaches to outer continental shelf oil and gas exploration, there has been an indication of a shift among Senate leaders away from a proposed federal oil and gas survey programme and towards a proposed joint exploration-development venture in which government would join with several private oil companies, including some of the smaller independent firms, to undertake comprehensive and co-ordinated drilling programmes covering entire geological structures considered likely to contain petroleum.

IV. THE TRANSPORTATION ASSESSMENT PROGRAMME

29. Discovery and production of additional domestic energy resources is only one side of the coin. Energy conservation and changes in our present fuel consumption patterns are matters of equal urgency and concern to the Congress. Accordingly, OTA has developed an active assessment programme in the area of transportation, where congressional leaders are seeking information about potentially more efficient ways to meet the travel needs of the American people.

30. The transportation study has been devoted chiefly to a series of questions in the field of fixed rail and guideway transit. We found that this field is characterised by the existence of a number of different technological alternatives, few of which have been placed in actual service in American cities. Our assessment of "automated guideway transit" was completed in the spring of this year, and was ready in time to be used by the committee in the Senate which was reviewing the budget of the government transit agency. The results of our study were presented by the OTA staff and consultants to this Senate Committee, and, as a result, the need for demonstration projects in our cities to test and demonstrate these alternate automated rail transit systems was accepted by the Senate Committee and funds were included in the budget.

31. Our transportation assessments have also included studies of "automobile collision data" and "automatic train control technology". More recently, we have conducted an assessment of how local governments, such as cities and regional governments, plan and make decisions about the kinds of public transit system they want to construct and operate. We have found that the Committees of both the Senate and House of Representatives have been receptive to our work and have made extensive use of our data and analysis in their own legislative work, ranging from committee reports to legislative hearings and floor debate.

V. CONCLUSION

32. Other major technology assessment studies now being done by the OTA, or about to be started, cover such subjects as energy, materials, food, health, international trade and overall R and D.

33. We have been pleased that parliamentarians in other countries have shown an interest in our work. In the three years of our existence we have had a number of visitors from other countries to our offices in Washington. They have included both parliamentarians and government officials from Canada, England, France, Germany, Holland, Japan and Sweden, as well as officials from the Common Market. We have also had some contacts with officials of the Soviet Union's State Committee on Science and Technology. We welcome these contacts because they offer us an opportunity to exchange views and experiences with policy makers and policy advisors who face the same basic questions which we face in dealing with policy issues that have a strong science and technology component. We have learned from these visitors, and we hope that they, too, have found their visits useful.

34. The OTA was established by the American Congress to meet a new need. The legislators, most of whom are without extensive specialised competence in matters of science and technology, felt that they must have a source of independent advice on questions in this field. They were particularly aware that science and technology produce not only the direct results which lead man to pursue research and development, but also secondary effects which in the past have only been taken into account when they became overpowering. At the OTA we are attempting to assist the Congress in becoming aware of both the primary and the secondary effects, so that legislation can be written to take both into account.

35. We are taking the first tentative step down this difficult path. Much has yet to be learned, but I am confident that this new advisory mechanism for the American legislature will make a substantial contribution to the deliberations of the Members and Committees of the Congress.