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WITHDRAWAL SHEET

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DOCUMENT NO. AND TYPE	SUBJECT/TITLE	DATE	RESTRICTION
1. note	FSMH to JAB re: Science Adviser, 2p.	4/30/81	P5, P6, P8 <i>B6</i>
2. memo	Frank Hodsohl to Ed Meese and Jim Baker re: OSTP (p.2-3, whole), 2p.	3/16/81	<i>P5 open</i>
3. memo	Same as Item # 2, ^(w/JAB initials) 2p.	3/16/81	<i>P5 open</i>
4. memo	Same as Item # 2, 2p.	3/16/81	<i>P5 open</i> <i>CCB 11/20/00</i>

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

- P-1 National security classified information [(a)(1) of the PRA].
- P-2 Relating to appointment to Federal office [(a)(2) of the PRA].
- P-3 Release would violate a Federal statute [(a)(3) of the PRA].
- P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA].
- P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA].
- P-6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA].

C. Closed in accordance with restrictions contained in donor's deed of gift.

Freedom of Information Act - [5 U.S.C. 552(b)]

- F-1 National security classified information [(b)(1) of the FOIA].
- F-2 Release could disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA].
- F-3 Release would violate a Federal statute [(b)(3) of the FOIA].
- F-4 Release would disclose trade secrets or confidential commercial or financial information [(b)(4) of the FOIA].
- F-6 Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA].
- F-7 Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA].
- F-8 Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA].
- F-9 Release would disclose geological or geophysical information concerning wells [(b)(9) of the FOIA].

WITHDRAWAL SHEET

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F99-016

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OA 9108

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THE WHITE HOUSE

WASHINGTON

July 8, 1981

MEMORANDUM FOR GLENN SCHLEEDE

FROM: FRANK HODSOLL *Frank*

SUBJECT: Staffing Level for OSTP

During the discussion several months ago on the level of staffing for OSTP, the decision was made to reduce full-time permanent and temporary positions each by 50%. This would result in 12 full-time permanent positions and 15 temporary positions (including full-time equivalent of consultants).

Unfortunately, we did not transmit to you the decision of the 15 temporary slots and apparently you independently pegged it as 10. I would appreciate it if you would correct the OSTP staffing levels to indicate an allowance of 15 temporary slots. I have checked this with Jim Baker and Ed Meese, who concur.

*cc: Keyworth
Auberman*

THE WHITE HOUSE

WASHINGTON

May 5, 1981

NOTE FOR ED MEESE
JIM BAKER
RICHARD ALLEN
MARTIN ANDERSON
ED GRAY

FROM: Frank Hodsoll

I had a long talk with Ritter (a very bright Congressman engineer) about OSTP. Attached is his earlier letter to Dave Stockman. I commend for your consideration points 1-3.

ATTACHMENT

DON RITTER
15TH DISTRICT, PENNSYLVANIA

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COMMERCE COMMITTEE

SUBCOMMITTEES:

HEALTH AND ENVIRONMENT
ENERGY CONSERVATION AND POWER
OVERSIGHT AND INVESTIGATIONS

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February 27, 1981

Mr. David Stockman
Director
Office of Management and Budget
Old Executive Office Building
Washington, D.C. 20503

Dear Dave:

The purpose of this letter is to comment on the retention of the Office of Science and Technology Policy in the White House. We feel that there are science issues impacting on productivity, regulation, and economic growth that must be dealt with at the Executive Office level to achieve effective regulatory reform and more natural evolution of research and development resources within our society. Also, without proper science policy directions from the President, we fear that federal agencies will continue to foster inconsistent, often invalid, regulatory standards.

The generic issues that require strong science policy leadership include--

1. Defederalizing the country's research and development capacity and bringing it back more to the scrutiny of the private sector:
The three year depreciation write-off of research and development equipment is a step in the right direction. Tax and regulatory policies are necessary to orient research and development away from the federal grant and contract economy, and into the market economy.
2. Reviewing/establishing scientific validity of regulatory standards:
The current scientific base of regulation is not only incomplete but often wildly inaccurate.
3. Putting technology-derived hazards to health, safety and the environment into perspective:
Zero risk is unattainable - but too often the safer bet for regulatory agencies. Trying to achieve it just about turns off the 20th Century.
4. Mobilizing the science and technology community towards support of the President's new direction of economic growth, energy production through market means, spending and taxing restraint, and pushing aside the regulatory obstacle course.
This community is a competent yet largely untrapped constituency just taking its first political breath.

One of the principle reasons for the excessive regulatory environment today is the lack of real scientific basis to the regulatory decision process. To date, the scientific community, while understanding this, has been mostly silent--not yet mobilized. This is a natural constituency to lead the charge for regulatory sanity. Leadership coming right from the President could work to enlist such a support.

Legislative initiatives will also be required to upgrade various regulatory statutes and that too requires some organized science-knowledgeable leadership by the Executive Branch. Otherwise the same bad law could come right back to haunt this country, either through the courts of law, or after an election or two.

We offer our assistance to the President in any way regarding this most important issue.

With warm regards, we are

Sincerely,

DON RITTER
Member of Congress

James T. Broyhill
Member of Congress

James G. Martin
Member of Congress

JTB/jmc

cc/Pendleton James
Assistant to the President for Personnel

House of Representatives

Washington, D.C. 20515

From the desk of

DON RITTER

Dear Frank, May 1, 1981

I appreciate you taking the time to discuss some ideas about OSTP priorities and Don Blickwede. Encl. is copy of a letter that really should have gone (or gotten!) to you in the first place. Good luck in the selection process! Don

THE WHITE HOUSE
WASHINGTON

Judy

(a very bright
comprehension
enquirer)

All do note from me
to Meese, Baker, Allen,
Anderson, Gray attaching
attached & saying:

I had a long talk with
Ritter about OSTP, attached
is his earlier letter to
Dave Stockman. I comment
for your consideration
points 1-3

Art Beecher

- Interested
- Donald J. Blickwede
VP in Bethlehem Steel

Metallurgical background

b. 1920

- Nat. Academy Engineering
- HTGR for steel
- educational institutions
- application electronics
to production end use

Head Industrial Research
Instit. Nat. Academy
Engineering.

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THIS FORM MARKS THE FILE LOCATION OF ITEM NUMBER 1 LISTED ON THE
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THE WHITE HOUSE
WASHINGTON

April 21, 1981

4/22
FOR 10:30 appt
Science Adviser cand.
(Hodboll + Gray request)

File
OSTP

MEMORANDUM FOR JAMES BAKER

FROM: ED GRAY *ESG*
SUBJECT: George A. Keyworth

Last week, I talked with the following persons to determine their assessment of G.A. Keyworth for the Office, Science Adviser to the President.

Dr. Edward Teller telephoned me to recommend, without reservation, that G.A. Keyworth receive the highest consideration for the position of Science Adviser to the President. Dr. Teller spoke in glowing terms about Keyworth's abilities and suitability for this job: "Jay has the knowledge, the personality, and the background in the broad areas of science to be of immense help to the president. He is absolutely outstanding and I am enthusiastic about him."

Dr. Harold Agnew, President, General Atomic Corporation and former head of Los Alamos Laboratory: "I am enthusiastic about Jay Keyworth. He has the intellect and he would be great as Science Adviser to the President. He is first rate. He has my highest recommendation."

Dr. George Cowen, Associate Director, Los Alamos Laboratory. Dr. Cowen has served on many panels of National Academy of Sciences: "I can't think of a man who could better represent matters of taste in science. To think of Jay Keyworth as the President's Science Adviser is an inspired thought. He is young but has maturity. He combines most of the things necessary for a job of that kind. He's outstanding."

Dr. Arthur Kerman, MIT Physics Department: "Jay Keyworth has the intensity and commitment. He's tremendous and a real rising star. I think it's a tremendous idea."

Memorandum for James Baker
April 21, 1981

Dr. Edward Bilpuch, Nuclear Structure Laboratory - Duke University. He was Keyworth's graduate school professor at Duke: "I have the highest regard for Jay Keyworth. He is decisive, not afraid to make decisions and has a positive attitude. Having him as the President's Science Adviser is an excellent idea. The President needs a man who understands science. Jay is a wonderful person and easy to talk to. He has the grasp of nature of basic research. He is blessed with good judgement. His philosophy is along the lines of the administration. Jay called me during the campaign and talked up Ronald Reagan."

*William C. Wilson is equally enthusiastic
about Dr. Keyworth.*

GEORGE A. COWAN

721 42nd STREET

LOS ALAMOS, N. M. 87544

April 18, 1981

Mr. Edwin J. Gray
Office of Policy Development
Executive Office of the President
White House
Washington, D.C. 20500

Dear Mr. Gray:

Following our telephone conversation I have considered the question of Jay Keyworth's candidacy for the position of Scientific Advisor at greater length and believe that some additional comments may be helpful.

My close association with Jay began professionally over a dozen years ago when we worked together on a challenging experiment involving a nuclear test in Nevada. His outstanding scientific competence brought him to my immediate attention. I have since followed his rapid advancement at Los Alamos with great interest and approval.

About two years ago we had occasion to work closely together under frequently stressful circumstances as members of a search team to advise Dr. David Saxon, President of the University of California, on the selection of a new director for Los Alamos. Jay attacked this responsibility with characteristic vigor and attention to detail. His informed and skillful advocacy probably contributed more than any other individual to the selection of the present Director.

Jay's early promotion to administrative responsibilities has diverted him from a promising career as a practicing physicist but, despite a crushing load of practical responsibilities, he has retained a close involvement with the questions of science. He invariably finds time to talk with outstanding scientific professionals, to recruit and surround himself with many of them at Los Alamos, and to contribute his own careful scientific judgments in situations where taste and intelligence are demanded.

I am sure that Jay would go to Washington with the full intention of devoting all of his considerable talents to the tasks assigned to the office. The information immediately available to him would be very extensive since he would draw not only on his own broad-ranging expertise but on his personal contacts with a large number of the nation's scientific leaders. On the other hand, he is young and not a member of any particular branch of the establishment. He will owe no outside debts and will, I am confident, pay first attention to the obligation of serving his country faithfully.

It should be noted that as a member of the administrative team at Los Alamos, Jay's views have sometimes differed from those of others, including the Director. On such occasions he has sometimes been disappointed. Nevertheless, once a team decision is firmly taken, Jay has unfailingly worked at implementation. I believe that, if the disagreement were fundamental, Jay would stand aside or resign.

Jay's active security clearances, which go beyond the rigorously demanding "Q" clearance, testify in part to his discretion in matters involving sensitive information. His personal character is unblemished and he will undoubtedly meet the most demanding expectations of a responsible public servant.

In sum, I unqualifiedly endorse Jay's candidacy. My endorsement is made in the perspective of views derived not only from long experience as a scientist and scientific administrator but also as a member and sometime representative of the New Mexico business and financial community. My background is more fully described in the attached sketch taken from the current "Who's Who in America."

Sincerely,



George A. Cowan

/c1
Enc. a/s

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

APR 20 RECD

15 April 1981

Mr. Edwin J. Gray
Deputy Assistant to the President
The White House
Washington, D.C. 20500

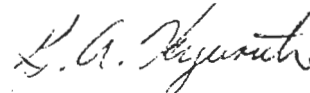
Dear Mr. Gray:

I enclose my résumé, to support my consideration as Science Advisor to the President.

At the risk of presumption, I wish to point out that I believe the President and the administration would benefit more from the presence of a scientific advisor rather than an advocate for science. Past administrations have demonstrated the ineffectiveness of maintaining a representative of the scientific community motivated to be a "hero" to science. As you are far more familiar than I, lobbyists abound in Washington. The President deserves a loyal, nonaligned representative who can both advise the administration on a wide variety of matters and, when appropriate, bring the enormous scientific and technological expertise available in our country to bear upon problems of major national need. This is in marked contrast to the previous Office of Science and Technology which served as the Washington focus for the scientific and technological communities. I further believe that a Science Advisor in such a role, whose responsibility is directed inward rather than outward, would require only a small but carefully selected staff. Assuming these perceptions are not inconsistent with your own and those of the President, I would welcome the opportunity to serve in the Reagan administration as Scientific Advisor.

I enjoyed my discussion with you and with Mr. Anderson early this week and wish to thank you for the lunch in the White House. Please extend my gratitude to Mr. Uhlmann for his stimulating company.

Very truly yours,



G. A. Keyworth

/c1
Enc. a/s

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

GEORGE A. KEYWORD, II

Personal:

Birthdate - November 30, 1939
Birthplace - Boston, Massachusetts
Address - Rt. 5, Box E, Santa Fe, New Mexico 87501
Telephone - 505-667-6162 (Office), 505-455-7710 (Home)
Married - Two children, born 1968 and 1970

Positions:

Physics Division Leader, Los Alamos National Laboratory, 1978 -
Acting Laser Fusion Division Leader, 10/80 - 3/81
Alternate Physics Division Leader, 1/78 - 10/78
Group Leader, Neutron Physics, 1974 - 1977
Assistant Group Leader, Neutron Physics, 1973 - 1974
Staff Member, Neutron Physics, 1968 - 1973
Research Associate, Duke University, 1968
Research Assistant, Duke University, 1963 - 1968

Education:

Ph.D. Physics, Duke University, 1968
B.S. Physics, Yale University, 1963

Awards:

American Men and Women in Science; 12th, 13th, 14th editions
Who's Who in the South and Southwest

Memberships:

American Physical Society
American Association for the Advancement of Science
Sigma Xi Honorary Scientific Society
Cosmos Club of Washington, D.C.

Major Committee Memberships:

LAMPF Long-Range Planning Committee
LANL Weapons Data Committee
WNR Program Advisory Committee
DOE Fusion Data Committee
Organizational committees for international conferences in
nuclear physics
University of California Selection Committee for Director of
Los Alamos National Laboratory

GEORGE A. KEYWORTH, II

Major Contributions:

1. At Duke University, I initiated a program to apply the uniquely high energy resolution capability available at the Duke Van de Graaff Accelerator Laboratory, previously developed for neutron physics, to charged-particle induced reactions. My Ph.D. thesis represented the first demonstration of the fragmentation of isobaric analogue states into fine-structure components. This observation is a manifestation of "intermediate" nuclear structure and implies a previously unexpected strong isospin coupling. This provoked the examination of the role of isospin in nuclear structure, still an area of major import in nuclear structure physics.

2. I joined the LASL scientific staff in 1968 and devoted my efforts until 1974 to the development of an experimental program to use polarized pulsed beams of neutrons and polarized targets to study detailed resonance structure in fission. My objective in initiating this program was to pursue my interest in "intermediate structure" to its hypothesized presence in fission cross sections in the region below the fission barrier. This work represented a major breakthrough in the experimental and theoretical understanding of resonance fission, in addition to providing a new technique for nuclear spectroscopy. This work demonstrated that other attempts to assign spins to resonances in fissionable nuclei, described in hundreds of reports and papers, are little more reliable than random assignments. This work was well received by the international nuclear physics community, provoking a number of invited contributions to major scientific meetings.

3. In 1974, my career embarked upon a path of scientific leadership at Los Alamos. My efforts became divided between attempts to strengthen the Los Alamos programs in basic experimental science and to develop a comprehensive and imaginative program in weapons physics. I first attempted to direct our efforts away from conventional neutron physics and to exploit areas of more fundamental phenomenology. I believe that I became a leader in the effort to direct the field of nuclear physics to address issues of fundamental interactions, currently emphasizing neutrino physics, the role of the weak interaction in nuclear reactions, and tests of gauge theories.

4. In 1978 I became responsible for the direction of several hundred scientists and technicians whose research encompassed weapons physics, basic research in nuclear and condensed matter physics, astrophysics and space sciences, satellite-based verification of nuclear

test treaties and, somewhat later, diagnostics of our own underground nuclear tests conducted at the Nevada Test Site. I devoted myself to attracting the highest possible caliber scientists to Los Alamos to give us world-class stature in these various endeavors. In particular, I attempted to interest a number of particularly promising scientists in both the basic and applied aspects of our overall program. To this end, I have been successful in attracting some of America's top young scientists to apply their skills to problems of national security. I believe I have also contributed to the restoration of our Laboratory image as a center of first-class experimental research in a number of disciplinary areas.

In a pragmatic sense, one of my major goals has been to develop a program in weapons physics to achieve a better understanding of the fundamental behavior of nuclear weapons. For example, I have developed a multifaceted program to explore the behavior of material at ultra-high pressures. This effort has recently received international recognition in achieving pressures never before obtained in the laboratory. Our experimental efforts in this area, as well as in a number of other weapons physics programs, have already stimulated efforts in our weapons design program to better understand the physics and models used in the design and interpretation of nuclear weapons tests. In pursuing this particular goal, I have attempted to maintain a balance between choosing problems that are fundamental and challenging, while addressing aspects of weapons behavior which are of the greatest import and uncertainty. At our present stage of maturity in nuclear weapons technology, I feel that such an effort is essential to maintaining a competent, imaginative staff that can preserve credibility in our nuclear deterrent as well as recognizing potentially unbalancing technological advances which may become available in the future, both to us and to our enemies.

5. In 1980 I became interested in the inertial fusion program. I became Acting Division Leader of the Los Alamos Laser Fusion Division prior to its being combined with our Physics Division, all under my direction, in March, 1981. My interest in inertial fusion resided in the observation that an enormous unrealized potential for exploring phenomena of weapons physics interest existed, independent of actual nuclear tests. I have attempted to strongly direct our activities in this area to problems of weapons interest rather than to compete as a fusion alternative. At the present time, I am striving to achieve a national leadership role for the Los Alamos inertial fusion program that will stop or slow down our headlong pace to build bigger and bigger lasers and rather to explore the potential already available to us. I am also attempting to use this potentially powerful tool for studying the physics of high-energy densities, radiation transport, and hydrodynamics to attract outstanding young scientists to an area of major national need.

LIST OF PUBLICATIONS

G. A. Keyworth, II

1. G. A. Keyworth, "Optics and Physics at Los Alamos--An Overview," Invited talk given to the Los Alamos Conference on Optics '81, April 7-9, 1981, Los Alamos, New Mexico.
2. G. A. Keyworth, "Present Status and Future Development of WNR," Invited paper, ICANS-IV, Tsukuba, Japan, 1980.
3. G. A. Keyworth, "Insuring that Research Addresses the Problems: Nuclear Weapons Development," Invited paper, Conference on How to Successfully Keep Research and Development on Track, The American University, 1980.
4. F. Coçu, J. Uzureau, S. Plattard, J. M. Fieni, A. Michaudon, G. A. Keyworth, M. Cates, and N. Cindro, "On the Existence of a Second $J^\pi = 0^+$ Resonance at High Excitation Energy in ^{24}Mg and a Possible Mechanism for the Occurrence of Resonances in the $(^{12}\text{C} + ^{12}\text{C})$ System," *Le Journal de Physique--Lettres*, Vol. 38 (1977) p. L-42.
5. M. S. Moore, J. D. Moses, G. A. Keyworth, J. W. T. Dabbs, and N. W. Hill, "Spin Determination of Resonance Structure in $(^{235}\text{U} + n)$ Below 25 keV," *Phys. Rev. C.*, Vol. 19 (1978).
6. G. A. Keyworth and M. S. Moore, "Cross Sections of the Major Transactinium Isotopes in the Resonance Region," Invited talk at the International Conference on Neutron Physics and Nuclear Data for Reactors and Other Applied Purposes, Harwell, England, September 25-29, 1978, published in the proceedings.
7. G. A. Keyworth, "Neutron Physics at LASL," a series of lectures presented at the III International School on Neutron Physics, Alushta (The Crimea), U.S.S.R., April 19-30, 1978, LA-UR-78-1018, published in the proceedings.
8. G. A. Keyworth, C. E. Olsen, J. D. Moses, J. W. T. Dabbs, and N. W. Hill, "Spin Determination of Resonances in ^{235}U ," *Proceedings of Nuclear Cross Sections and Technology Conference*, Washington, D.C., March 3-7, 1975, NBS SP 425, Vol. I and II, P. 576-579.
9. G. A. Keyworth, J. R. Lemley, C. E. Olsen, F. T. Seibel, J. W. T. Dabbs, and N. W. Hill, "Determination of Spins of Intermediate Structure Resonances in Subthreshold Fission," in Physics and Chemistry of Fission 1973, Vol. I (IAEA, Vienna, 1974) IAEA-SM-174/65.

10. G. A. Keyworth, J. R. Lemley, C. E. Olsen, F. T. Seibel, J. W. T. Dabbs, and N. W. Hill, "Spin Determination of Spins of Intermediate Structure in the Subthreshold Fission of ^{237}Np ," *Phys. Rev. C*, 8, 2352 (1973).
11. G. A. Keyworth, C. E. Olsen, F. T. Seibel, J. W. T. Dabbs, and N. W. Hill, "Spin Determination of Resonances in the Neutron-Induced Fission of ^{235}U ," *Phys. Rev. Letters*, 31, 1077 (1973).
12. G. A. Keyworth, J. R. Lemley, C. E. Olsen, F. T. Seibel, J. W. T. Dabbs, and N. W. Hill, "Determination of Spins of Intermediate Structure Resonances in Subthreshold Fission," presented at the IAEA International Symposium on Physics and Chemistry of Fission, University of Rochester, Rochester, NY, August 13-17, 1973.
13. M. S. Moore, G. A. Keyworth, "Analysis of the Fission and Capture Cross Sections of the Curium Isotopes," *Phys. Rev. C*, 3, 1656 (1971).
14. G. A. Keyworth, J. R. Lemley, "A Proposed Ultra-Low Temperature Polarized Target for Use with Single-Burst Neutron Sources," in *Polarization Phenomena in Nuclear Reactions*, H. H. Borschall and W. Haeberli, Eds. (University of Wisconsin Press, 1971) p. 887.
15. G. A. Keyworth, J. R. Lemley, "An Underground Nuclear Explosion as a Polarized Neutron Source," in *Polarization Phenomena in Nuclear Reactions*, H. H. Borschall and W. Haeberli, Eds. (University of Wisconsin Press, 1971) p. 873.
16. J. R. Lemley, G. A. Keyworth, B. C. Diven, "High-Resolution Fission Cross Section of Uranium-235 from 20 eV to 100 keV," *Nucl. Sci. and Engineering*, 43, 281 (1971).
17. R. D. Baybarz, F. B. Simpson, M. E. Ennis, G. A. Keyworth, M. S. Moore, J. R. Berreth, W. K. Brown, R. R. Fullwood, J. H. McNally, and M. C. Thompson, "Fission and Capture Cross Sections of Some Curium Isotopes from the Physics-8 Nuclear Explosion," LA-4566 (1970).
18. M. S. Moore, W. K. Brown, M. E. Ennis, R. R. Fullwood, G. A. Keyworth, J. H. McNally, F. B. Simpson, J. R. Berreth, R. D. Baybarz, M. C. Thompson, "Fission and Capture Cross Section of Curium," in *Nuclear Data for Reactors*, p. 527, Vol. I, IAEA, Vienna (1970).
19. P. Wilhjelms, G. A. Keyworth, J. C. Browne, W. P. Beres, M. Divadeenam, H. W. Newson, and E. G. Bilpuch, "Experimental High-Resolution Investigation and Shell-Model Interpretation of the ^{49}Ca Ground-State Analog," *Phys. Rev.* 177, 1553 (1969).

20. G. A. Keyworth, P. Wilhelm, G. C. Kyker, Jr., H. W. Newson, and E. G. Bilpuch, "High-Resolution Study of Isobaric Analog Resonances in ^{23}Na ," Phys. Rev. 176, 1302 (1968).
21. P. Wilhelm, J. C. Browne, G. A. Keyworth, E. G. Bilpuch, and H. W. Newson, "The Fine Structure of Isobaric Analog Resonances in ^{43}Sc and ^{45}Sc ," Phys. Letters 28B, 26 (1968).
22. P. Wilhelm, G. A. Keyworth, G. C. Kyker, D. L. Selling, N. R. Roberson, and E. G. Bilpuch, " $\text{Ar}^{40}(\text{d},\text{p})$ Excitation Functions over the Ground-State Isobaric Analog Energy Region," Phys. Rev. Letters 18, 130 (1967).
23. G. A. Keyworth, G. C. Kyker, E. G. Bilpuch, and H. W. Newson, "A High-Resolution Study of Isobaric Analogue Resonances in K^{41} ," Nucl. Phys. 89, 590 (1966).
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GENERAL ELECTRIC
GENERAL ELECTRIC COMPANY
FAIRFIELD, CONNECTICUT 06431

Any follow-up?
→ FRANK
To F.H.
✓

ARTHUR M. BUECHE
SENIOR VICE PRESIDENT

April 7, 1981

The Honorable James A. Baker, III
Chief of Staff and Assistant to the President
The White House
Washington, D. C.

Dear Mr. Baker:

Thank you very much for your kind letter of March 31. I, too, very much regret that I'm not able to join your team as Science Advisor. Unfortunately, the best I can do is offer to help you on a part-time basis.

I hope you'll feel completely free to call on me whenever you think I can be of help. I strongly support the President's goals and plans and want to see them carried out in the most expeditious manner possible. I would be happy to work with you and your staff and the new Science Advisor to make this happen.

I would be remiss if I didn't mention the fine cooperation and support I've had throughout the transition and during recent weeks from Frank Hodsoll. I hope you'll give him my best regards.

Sincerely,



AMB:m

THE WHITE HOUSE
WASHINGTON

3/31/81

*Attached names passed
on to Bill Draper.*

File
JSTY

WRC - check
morehead

THE WHITE HOUSE
WASHINGTON

Art Bueche

X 1. ³ How Saret
- Senior VP Merck
Chemist (Pres. Medal
Science for synthesizing
corticoids)
- Spent M. y. Eve with
Bush.

X 2. ² Bob Siemens (swindly rich)
- Avoid of being Dean of
Eng at MIT.
- old boleter with industry

3. ¹ Norm Hackerman (may).
- Pres. Rice Univ
Chemist. elect. chemist
- Head NSB 12 years
also know Bush

THE WHITE HOUSE
WASHINGTON

X4. Steve Mark

- Dep. Admin NASA
nominee.
- Good tech credentials
- Sec AF, NASA

X5. Bud Wheelon

- (Dep Dir CIA) (Nixon, Ford)
- Engineer (aerospace)
- VP Hughes

[David Robinson
- GC for Treasury
- Close to Bush

THE WHITE HOUSE

WASHINGTON

March 31, 1981

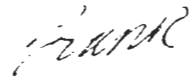
Dear Mr. D'Ianni:

I apologize for not having replied to your letter of February 9 before now. It became submerged in a heap of correspondence at the time of our initial takeover at the White House.

As you may by now know from Art Bueche, we are proceeding with our attempt to find a Science Advisor. I quite agree that the Council of Scientific Society Presidents would be an important organization to turn to as we select candidates for science and technology positions in the Federal Government. I am in this respect taking the liberty of passing your letter on to Pen James in Presidential Personnel and Ben Huberman, who we have named Acting Science Advisor.

Thank you for your offer of help. Again, my apologies for not having responded sooner.

Sincerely,


F.S.M. Hodson
Deputy Assistant to the President

Dr. James D. D'Ianni
860 Sovereign Road
Akron, Ohio 44303

CC: Pen James
Ben Huberman

1981
Officers
&
Membership

Council of Scientific Society Presidents

1155 16th St., N.W., Washington, D.C. 20036 (202) 872-4452

*Ask the
science
adviser*

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John F. Jackovitz
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Seymour V. Parter
*Society for Industrial & Applied
Mathematics*

E. B. Bagley
Society of Rheology

February 9, 1981

Please reply to: Dr. James D. D'Ianni
860 Sovereign Road
Akron, Ohio 44303
(216) 864-5582

Mr. Francis Hodsell
Office of Mr. James Baker
The White House
Washington, D. C. 20500

Dear Mr. Hodsell:

This letter is being written to you after a conversation with our mutual friend, Dr. Arthur Bueche, on the subject of key personnel for science and technology posts in the new Administration.

The Council of Scientific Society Presidents, composed of the presidents of twenty-five scientific societies, is in a unique position to advise you of outstanding candidates for science and technology positions in the federal government. We hope our counsel now would be timely since recent news reports indicate that President Reagan intends to make sweeping changes at several levels of administration.

CSSP has already made some suggestions to the Science Advisory Group during the transition period, as have other organizations, and I'm sure the work of this group has been invaluable to you. I would like to suggest the willingness of CSSP to meet with you and your staff to help in screening candidates now under consideration, as well as others we could bring to your attention. We might be joined in this evaluation by other associations, especially those representing the nation's research universities.

The Council of Scientific Society Presidents offered its support to President Reagan last November (see attached letter), and as the 1981 Chairman of CSSP, I repeat our offer to help, especially in the selection of personnel satisfactory to the Administration and to the scientific community.

Sincerely,

James D. D'Ianni

Chairman

had



COUNCIL OF
SCIENTIFIC SOCIETY
PRESIDENTS

1155 Sixteenth Street, N.W.
Washington, D.C. 20036
(202) 872-4452

1980

November 20, 1980

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Henry L. Alder
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Secretary
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Executive Board
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Gardner W. Stacy

President-Elect Ronald Reagan
Office of the President-Elect
1726 M Street, N.W.
Washington, D.C. 20270

Dear Mr. President-Elect:

The Council of Scientific Society Presidents congratulates you upon your election to the Presidency. We offer and pledge our support in areas of science in which we are competent.

We hope that you will maintain and strengthen the lines of communication which now exist between the Office of the President and the scientific community. Under the leadership of a respected scientist with a strong support staff, the Office of Science and Technology Policy, established under President Ford in its present form, could significantly advance your goals for the revitalization of science and technology.

We also hope that you share our belief that our nation's declining position in innovation, productivity, and science education requires solutions which depend heavily on expanded scientific research and greatly strengthened science education. We are prepared to assist in any way we can in the solution of these problems.

We wish you well as you take on your many responsibilities.

Sincerely,

Henry L. Alder
Chairman

- Members
- Frederick Mosteller
American Association for the Advancement of Science
 - Donald S. Young
American Association for Clinical Chemistry
 - Robert G. Waggener
American Association of Physicians in Medicine
 - James D. D'Ianni
American Chemical Society
 - Harold W. Wycckoff
American Crystallographic Association
 - Albert S. Hoagland
American Federation of Information Processing Societies
 - Grover E. Murray
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 - E. Janet Berry
American Institute of Chemists
 - Peter D. Lax
American Mathematical Society
 - Edward J. Hennelly
American Nuclear Society
 - Florence L. Denmark
American Psychological Association
 - Glenda Price
American Society for Medical Technology
 - Wills A. Wood
American Society for Microbiology
 - Arthur Pardee
American Society of Biological Chemists, Inc.
 - William C. Beck
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Association for Computing Machinery
 - Richard D. Anderson
Conference Board of the Mathematical Sciences
 - Gerald F. Combs
Federation of American Societies for Experimental Biology
 - Alan Ludwig
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 - Dorothy L. Bernstein
The Mathematical Association of America
 - Donald McCurdy
National Science Teachers Association
 - Warren J. Smith
Optical Society of America
 - Philip P. Kane
Society for Applied Spectroscopy
 - Richard C. DiPrima
Society for Industrial and Applied Mathematics
 - E. B. Bagley
The Society of Rheology

THE WHITE HOUSE

WASHINGTON

March 17, 1981

MEMORANDUM FOR THE PRESIDENT

FROM: JAMES A. BAKER, III
EDWIN MEESE, III

SUBJECT: Selection of a Science Advisor:
Request for you to call Art Bueche (Senior VP GE)
to ask him to be your Science Advisor

After reviewing the staffing needs for the White House offices, we have concluded that retention of a small Office of Science and Technology Policy (OSTP) would be in your interests. The office would be headed by the Science Advisor, a post that goes back to the Sputnik era under President Eisenhower. Working closely with Marty Anderson's, Dick Allen's and Dave Stockman's staffs, OSTP would serve as a valuable source of technical advice within the White House. The Science Advisor would also serve as a key point of contact with the leadership of our high technology industries.

To fill the Science Advisor post we have searched for a respected technologist, compatible in outlook, and who would do his job in a low key. Arthur Bueche, Senior Vice President for Corporate Technology at GE, is on practically everybody's list for the job. We strongly recommend him.

Bueche (pronounced Bée-cah), 60, worked in the Office of Policy Coordination during the transition and co-chaired your Task Force on Science and Technology prior to the election. He is a proven team player who will work well with your other advisors.

If you approve, we recommend you draw on the attached talking points in phoning Bueche (Tel. 203/373-2175).

ATTACHMENT

TALKING POINTS

- o Art, belated thanks for working in the Office of Policy Coordination during the transition and for co-chairing my Task Force on Science and Technology prior to the election. We will be moving ahead on many of your recommendations (e.g., encouraging R&D and innovation in industry; getting our money's worth in government spending on technology).

- o We will be looking to the Science Advisor and his office -- OSTP -- to help us make the many decisions involving scientific and technological issues.

- o I would very much like to have you be the Science Advisor. You would be a very valuable member of my team, working especially closely with Marty Anderson, Dick Allen and Dave Stockman.

- o I hope I can steal you from GE and that you can let me or Jim Baker know later today or tomorrow of your decision. It would be a pleasure having you on our team.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D C 20500

March 19, 1981

MEMORANDUM FOR EDWARD MEESE, III
JAMES A. BAKER, III

THROUGH: FRANK HODSOLL *Frank*

FROM: BEN HUBERMAN *Ben*

SUBJECT: Call from Art Bueche

*I think Ben's suggestion
makes sense; good idea
to work in parallel, but
practically through
Anderson & Allen.*

Art Bueche called me, as a friend and in my position as Acting Director of OSTP, to tell me that the President called to offer him the job of Science Advisor. The President told Bueche to take as much time as he needed to decide and to call him back with an answer or to call either of you.

Bueche is very favorably disposed but is concerned over the question of to whom he would report and will call one of you. I recommend that you say that he would report to Ed Meese but would be expected to coordinate his work and recommendations with Marty Anderson, Dick Allen or Dave Stockman, as appropriate. I believe that Bueche would like this approach.

THE WHITE HOUSE
WASHINGTON

March 16, 1981

MEMORANDUM FOR ED MEESE
JIM BAKER

FROM: FRANK HODSOLL

SUBJECT: OSTP

I have reviewed Ed Harper's and Howard Messner's memos on OSTP.

Unlike CEQ whose functions could, from a management point of view, easily be assumed by EPA and Interior, OSTP is the only place where scientific and technological advice can be directly brought to bear on national policy deliberations.

The Science Adviser/OSTP function has two sub-parts: one domestic and one international. On the domestic side, OSTP monitors the health of the institutions and the quality of national research and development, focusing special attention on private sector activities to develop and implement new technologies (including government impediments and incentives to such development and implementation). On the international side, OSTP assures coordination of, and adequate content in, international S&T cooperation. It has also coordinated advisory panels on strategic missile systems, technological intelligence and arms control; managed the policy process for the comprehensive test ban negotiations; and provided oversight of telecommunications protection, space policy and the technological aspects of export controls.

From a political perspective, the Science Adviser's office and OSTP are looked upon by the science community as a symbol of concern for scientific and technological issues. I am told that there is currently quite a bit of concern regarding the undetermined status of OSTP both in the community and in Congress (Jack Schmitt).

As Ed Harper's memorandum points out, the reduction of OSTP by 50% is probably about right. The conclusion of the Messner memorandum is, however, that consideration could be given to consolidating OSTP functions with the Office of Policy Development. The problem with this approach is that OSTP has been as useful on the international side as it has been on the domestic side; a number of its international activities are highly classified and very much oriented towards national security. Carter's Science Adviser thought OSTP to be more effective in the national security than in the domestic area. The U.S. technological base serves both civilian industrial and military applications. There is no other place in government which can provide scientific and technological evaluation to both domestic and international policy proposals.

RECOMMENDATION

For these reasons, I recommend OSTP be kept at the 50% level with two major functions: one for domestic and one for international aspects. The health and human services office (created by Carter) can be abolished. OSTP should report through Allen and Anderson to you. This would avoid criticism by the S&T community, provide for helpful inputs to policy development, and assure adequate staff work in its areas of competence to both NSC and OPD systems. Reducing OSTP further would have negligible budget consequences and severely constrain OSTP from doing its job.

Art Bueche, who performed the transition for OSTP, strikes me as the most desirable candidate for Science Adviser. He is highly respected, conservative in philosophy, a practical technologist (rather than a pure scientist) and a low-key team player. I am told he would be likely to give up his senior vice presidency at GE for this purpose if he were asked to do so by the President.

1. Keep OSTP at reduced level, reporting through Allen and Anderson to you.

APPROVE _____

DISAPPROVE _____

2. Offer the job of Science Adviser to Art Bueche.

APPROVE _____


DISAPPROVE _____

NOTE: I have the transition briefing book for OSTP which buttresses this memo. It's a fat fellow. If either or both of you would like it, I can make it available.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D C 20500

March 19, 1981

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JAMES A. BAKER, III

THROUGH: FRANK HODSOLL
FROM: BEN HUBERMAN 
SUBJECT: Call from Art Bueche

Art Bueche called me, as a friend and in my position as Acting Director of OSTP, to tell me that the President called to offer him the job of Science Advisor. The President told Bueche to take as much time as he needed to decide and to call him back with an answer or to call either of you.

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GENERAL ELECTRIC
GENERAL ELECTRIC COMPANY
FAIRFIELD, CONNECTICUT 06431

File
OSTP

ARTHUR M. BUECHE
SENIOR VICE PRESIDENT

March 5, 1981

The Honorable James A. Baker, III
Chief of Staff & Assistant to the President
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

Dear Mr. Baker:

I am very impressed with the diligence with which you and your associates have started to reduce the Federal Budget. Based on my observations during the time that I spent working on the Transition Team, I'm convinced that there are many opportunities for further sizeable cuts in certain technology-oriented programs. In fact, cutting out or curtailing many of these programs could, I think, actually improve the rate at which new technology is developed and introduced into the economy. Of course, the trick here is to cut away the unnecessary work and remove roadblocks to productivity and economic growth without inadvertently damaging the system. This is easier said than done and requires truly expert and broad-based judgment to accomplish.

I believe, however, that a person with a broad background in science and technology, including successful business experience, in the position of President's Science and Technology Advisor could be a great help in this and other problems facing the President. Working behind the scenes with OMB, such a person could help to identify opportunities and provide objective assessment of the parochial views presented by the agencies.

I am distressed that you don't have this type of advice in the White House. And I'm especially disturbed by the rumor that you are considering not having such an advisor on the President's staff. My years of observing the operations of the Executive Office of the President as well as my own personal experience in Corporate management at GE, have convinced me that the advisors to the Chief Executive must have his orientation and the greatest possible institutional objectivity. Really helpful options and tradeoff assessments simply cannot be produced without expertise in the critical fields on the immediate staff.

March 5, 1981

As you know, I have a great deal of "sunk cost" in trying to see that this Administration has the best possible orientation and high quality people in science and technology-related areas. While I applaud the recent appointment of Dick DeLauer at DoD, I must say that the signals implicit in the appointments, or lack of appointments, made to date are worrisome indeed to many of us in the industrial community.

I will be calling Martin Anderson to try to arrange an appointment to discuss this issue and determine how I might help.

Sincerely,

A handwritten signature in cursive script, appearing to read "A. M. Bush".

AMB/bmo

cc: Mr. Martin Anderson

THE WHITE HOUSE

WASHINGTON

March 16, 1981

File

MEMORANDUM FOR ED MEESE
JIM BAKER

FROM: FRANK HODSOLL *Frank*

SUBJECT: OSTP

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1. Keep OSTP at reduced level, reporting through Allen and Anderson to you.

APPROVE



DISAPPROVE

2. Offer the job of Science Adviser to Art Bueche.

APPROVE

A handwritten signature in black ink, appearing to be 'AB' followed by a flourish, written over a horizontal line.

DISAPPROVE

NOTE: I have the transition briefing book for OSTP which buttresses this memo. It's a fat fellow. If either or both of you would like it, I can make it available.

THE WHITE HOUSE
WASHINGTON

File

March 16, 1981

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JIM BAKER

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APPROVE _____

DISAPPROVE _____

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To: Ed Meese
Fr: Ed Harper
Re: Science and Technology Advisors
Consumer Advisors et al

MAR 4

File
OSTP
1001

Per your request I had OMB do a quick survey of the advisors we have on Science and Technology and on Consumer Affairs.

With respect to Science and Technology the report suggests some potentials for savings in the Executive Office of the President, but not much elsewhere in government. The Executive Office of the President Savings have probably been accounted for by our reducing the staff of the Office of Science and Technology policy by 50%.

On the Consumer Affairs side past budget reductions have made most of them shadow organizations. The one exception is the Office of the Consumer Advisor which I would recommend be cut by a very large percentage.

The report also points out that there may be potentials for savings in three other areas common to many departments:

1. international affairs
2. public affairs
3. intergovernmental relations.

Each of these are sensitive areas which would require political guidance at both the Departmental and White House levels.



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

FEB 27 1981

MEMORANDUM FOR DR. HARPER

FROM: Howard M. Messner *Howard*

SUBJECT: Special Advisor Survey

As you requested, we have conducted a survey of science and technology and consumer advisors throughout the government. Our findings and recommendations are provided below. We limited our data search to sources within OMB to avoid raising the level of concern in the agencies unnecessarily.

I. Science and Technology

In identifying the universe of science and technology advisors, we concentrated on two categories:

- . Category 1--offices which advise the President or otherwise influence or recommend government-wide science and technology policy or expenditures.

<u>Office</u>	<u>FY 1981 Staffing and Obligations</u>	
Office of Science and Technology Policy	24	\$2.7 million
Domestic Policy Staff		undetermined portion
National Science Foundation	N/A	\$7.5 million

- . Category 2--advisory committees and staff offices in the departments and agencies.

<u>Science Advisory Committees</u>	<u>Annual Expenditures</u>
246 (estimate)	\$26.4 million (estimate)

We also deal with the Assistant Secretary of Commerce for Science and Technology.

Discussion

Category 1: Advisory to the President. Three offices advise the President or otherwise have major influence on government-wide science and technology policy--the Office of Science and Technology Policy, the Domestic Policy Staff, and the National Science Foundation. In addition to its advisory functions, the OSTP makes recommendations on research and development expenditures in the Federal budget. For fiscal year 1981 the OSTP has a staffing of 24 and \$2.7 million in obligations.

Although the charter of the Domestic Policy Staff provides the base for a considerable role in science and technological matters, DPS efforts have historically been on an ad hoc, issue oriented basis, as contrasted to the continuing involvement of OSTP. It has played an important role, as evidenced by the industrial innovation study during the Carter Administration.

The role of the National Science Foundation is more complex. Two of its programs are intended to provide information that can be used in making decisions on Federal science and technology activities. NSF's "Policy Research and Analysis" program supports studies of the social and economic effects of science and technology and the influence of Federal policies on technological innovation (\$4.4 million in fiscal year 1981). The "Science Resources Studies" program conducts studies and analyses of resources devoted to science and technology (\$3.1 million in fiscal year 1981 obligations).

Category 2: Advisory Committees and Staff Offices. As of December 31, 1979, there were 820 advisory committees with annual expenditures of over \$88 million (1980 figures will be available in three weeks). Over one-third of these advisory committees are required by law; the others were established by the President or the agencies.

Approximately 30 percent of the committees are in some way related to soliciting outside advice on scientific and technical matters, ranging from the selection of grant recipients to broad science and technology issues. Examples of these later types include DOE's Energy Research Advisory Board, the NASA Advisory Council (which provides outside advice on NASA program objectives and strategies), and EPA's Science Advisory Board.

In addition to these advisory committees a few agencies have science advisors in staff positions without any operating responsibilities. Examples include the Senior Science Advisor for Water and Waste Management, EPA, and the Technology Advisor, National Bureau of Standards. We doubt if there are more than an additional half dozen.

Assistant Secretary of Commerce for Science and Technology and Similar Offices.

You asked that we look specifically at the Assistant Secretary of Commerce for Science and Technology (now called the Assistant Secretary for Productivity, Technology, and Innovation). The Assistant Secretary has for a number of years directed the activities of three major operating units--the National Bureau of Standards, the Patent and Trademark Office, and the National Technical Information Service. In addition, the Assistant

Secretary has directed some relatively limited efforts in the area of productivity, technology, and innovation.

Assistant Secretary Baruch in the Carter Administration often served as the Administration spokesman on these matters, and led the working group on the Carter Administration's study of industrial innovation. The study resulted in increased responsibilities for the Department of Commerce in general and the Assistant Secretary in particular during the last Administration. The "Stevenson Technology Innovation Act of 1980" (enacted October 21, 1980) expanded on the productivity and innovation activities already assigned to the Assistant Secretary and authorized significant expenditures--\$19 million in fiscal year 1981 and \$40 million in fiscal year 1982. The Carter budget requested \$7.4 million in fiscal year 1981 and \$11.5 million in fiscal year 1982. We understand most of this will be wiped out in the budget revisions.

The primary purpose of the Assistant Secretary position was to consolidate all of Commerce's science and technology activities under the leadership of one policy official. Similar arrangements exist in many other agencies with scientific programs. We do not believe these arrangements are comparable to the OSTP or the Domestic Policy Staff in practical effect.

Conclusions

We conclude that:

. There appear to be some overlap and duplication in science and technology advisory activities in the Executive Office of the President. Consideration could be given to consolidating the OSTP functions with the Domestic Policy Staff. This has been done by previous Administrations and reversed by succeeding Administrations.

. We believe opportunities exist to reduce the number and funding of science advisory committees. Some committees will experience reduced funding as a result of ongoing budget reductions in the programs they support.

. The OSTP currently lists a Federal Coordinating Council for Science, Engineering, and Technology and an Intergovernmental Science, Engineering, and Technology Advisory Panel. We would need to look at these more closely in relation to your question on whether there should be an interagency science and technology advisory board. The issue on Executive Office organization would be a significant factor in this consideration.

- . We have not identified other "excessive duplication" of science and technology advisory functions within the time frame of our survey. The Assistant Secretary positions in Commerce and other departments do not appear to qualify for this type of consideration.

II. Consumer Advisory Activities

We examined consumer advisory activities in 25 departments and agencies. Our findings are:

- The U.S. Office of Consumer Affairs (OCA) located in the Department of Health and Human Services, has acted as the principal advocate for consumer needs and viewpoints across the government. Under Presidents Nixon, Ford and Carter the OCA Director also served as the Special Assistant to the President for Consumer Affairs.

OCA has 54 full-time positions and a proposed FY 1982 budget of \$2.65 million.

- During 1980 departments and agencies were directed by Executive Order 12160 to establish "consumer affairs programs." Each agency head was also required to designate a senior level official who would be "solely responsible" for overseeing the program and who would report directly to the agency head.

E.O. 12160 also established an interagency Consumer Affairs Council that includes representatives from 24 departments and agencies. The Council is charged with leading and coordinating Federal agency consumer efforts, and has the authority to approve and monitor the implementation of every agency's "consumer affairs program." The Executive order required the Council's chairman to use OCA to staff the Council.

In general, agencies responded to the requirements of the Executive order by using existing staff resources. Three basic approaches were followed:

1. Several departments assigned the new requirements to high-level consumer offices that had been created previously.

HUD had created an Assistant Secretary for Neighborhoods, Voluntary Associations, and Consumer Protection. This office administers housing counseling and mobile home inspection programs in addition to advising the Secretary on consumer issues.

DOT had established a Consumer Liaison Office within its Office of the Assistant Secretary for Government Affairs.

The Attorney General had named a personal Consumer Affairs Advisor.

2. Most agencies responded by adding the consumer advisory responsibility to the duties of existing officials.

DoD named the Assistant Secretary for Manpower, Reserve Affairs and Logistics as the Consumer Affairs Adviser to the Secretary and designated the Assistant Secretary's Special Assistant as the Department's consumer coordinator.

Labor assigned the consumer adviser function to the Secretary's Special Assistant.

EPA gave its Director of Public Awareness the extra title of Special Assistant to the Administrator for Consumer Affairs.

The EEOC assigned the consumer adviser function to its Executive Director.

In some cases, internal reporting relationships were changed to elevate existing consumer advisory activities.

The Director of the Veterans Administration's Consumer Affairs staff, which is located in VA's Office of the Assistant Administrator for Planning and Program Evaluation, now reports directly to the Administrator on consumer activities.

At State, the Special Assistant for Consumer Affairs, an economist in the Office of Economic and Business Affairs, theoretically will report directly to the Secretary.

3. Several departments created an additional position in response to Executive Order 12160. The Secretaries of HHS and Treasury each created a new special assistant for consumer affairs position.

The Federal Emergency Management Agency allocated one position within its Office of Public Affairs to handle consumer issues.

USDA reassigned staff within the Office of the Secretary to act as consumer advisers.

The cost of this new advisory program is not clear. The Executive order required each Federal agency to submit with its annual budget request a "consumer affairs program exhibit" that identifies the funding and staff resources the agency devotes to the activities it mandates, not all of which are advisory:

- supporting staff that will represent the consumer's point of view on proposed policies;
- helping consumers participate in developing agency policy;
- producing and distributing information materials useful to consumers;
- educating and training agency staff to implement the executive order; and
- handling consumer complaints efficiently and effectively.

Departments and agencies projected they devoted more than \$870 million for these activities during FY 1981. We believe these numbers are unreliable and overstate the Federal effort.

The OCA staff estimated that Federal agencies expended \$1 million implementing the procedural requirements incorporated in Executive Order 12160. This expenditure would be in addition to the OCA budget noted earlier.

- ° The General Services Administration manages two major consumer information programs.

GSA's Consumer Information Center encourages major Federal agencies to develop consumer product information. It also disseminates a consumer information catalog and free publications, financed by other Federal agencies. The Center has 17 full time employees and a FY 1982 budget of \$1.3 million.

GSA also operates 41 Federal Information Centers that provide information about government programs and services to the general public.

- ° We also examined public advisory committees that have a consumer-related mission. Only the Energy Department has a chartered "consumer affairs" committee charged with providing advice about the effects of proposed departmental policies on consumers. Several other advisory committees deal with substantive areas related to very specific consumer concerns, such as boat safety.

In summary:

We estimate that no more than 70 people, including the 54 staff located in OCA, work solely on consumer advisory functions related to the Executive order.

Approximately \$3.7 million, including OCA's \$2.65 million budget, is expended to support these advisory activities.

We conclude:

Consumer advisory activities developed in response to Executive Order 12160 are largely shadow programs. Few agencies devoted new staff. In most instances existing staff simply assumed the consumer advisory responsibility assigned by the Executive order in addition to their other duties. Consequently, it seems little potential savings exist. If the Executive order were rescinded departments could chose to use these personnel in other ways which might lead to some internal efficiencies.

Several departments do have significant consumer programs that were established before the Executive order was issued. These programs appear to be related to specific departmental needs and reflect the priority the department places on effective consumer relations. We believe that a case for reducing these programs would be made more honestly on program grounds than for reasons of duplication or mismanagement. However, if each department is carrying out its own advisory program under the Executive order the need for a government-wide advisory effort supported by OCA is not so compelling. On the other hand, if the Executive order were rescinded OCA could be cut on the basis that OCA staff that now support the Consumer Affairs Council established under the Order are not needed. The Budget Division supports this approach.

We see very little opportunity for savings in the public advisory committee area. In fact, Energy is considering eliminating the only consumer affairs advisory committee that currently exists.

Also, there may be some opportunity to improve consumer information programs. The GSA programs are not high cost but a specific analysis of possible program redundancies between GSA and OCA might yield some limited savings.

We think the best chance to realize savings in the consumer advisory area is to focus on OCA. The approach would depend on your preference on whether or not Executive Order 12160 should be rescinded.

III. Some Other Potential Areas for Elimination of Waste and Duplication

We will complete a survey and an analysis of the following additional areas if you agree they merit consideration.

- . International affairs/activities offices in agencies--we have many small "State Departments" in the agencies that over time have caused concerns of duplication and interference.
- . Public affairs organizations--this is an obvious candidate that deserves periodic attention and reduction.
- . Intergovernmental activities--this is a complex and highly sensitive area that needs a more rational framework in the Executive Branch.

Science Advice in the White House? Continuation of a Debate

Eugene B. Skolnikoff and Harvey Brooks

Science Advice in the White House? Continuation of a Debate

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A new debate over the purpose and structure of a science advisory apparatus in the White House is now well under way, spurred by the apparent interest of President Ford in some kind of structural change. An important article by G. B. Kistiakowsky in *Science* in April 1974, the report by a select committee of the National Academy of Sciences (NAS) chaired by James R. Killian, the recent hearings of the House Committee on Science and Astronautics, S. 32 sponsored by Senator Kennedy (D-Mass.) and passed by the Senate, and assorted items in the pages of this and other journals have contributed to the debate (1). So far, the consensus seems to favor creation of a modified Office of Science and Technology—a three-member Council for Science and Technology patterned after the Council of Economic Advisers and the Council on Environmental Quality. The existing arrangement in which the director of the National Science Foundation (NSF) also serves as science adviser to the President is given

short shrift, as are other possibilities.

We agree with the proposal for a three-member Council for Science and Technology (CST); but we believe the detailed structure is much less important than the nature of the tasks to be performed and the arguments that justify such a council in the first place. The case for the CST has not been made adequately, in our view, by any of the contributors to the debate, although the Kistiakowsky article comes closest. The NAS study, the most widely quoted, fails to deal with the politics behind the issue or to examine the real and critically important lessons of the rise and fall of the President's Science Advisory Committee (PSAC) and the Office of Science and Technology (OST). It is essential that we be clearer about the possibilities and limitations of a science office at the White House level if a successful and stable office is to be achieved.

For analytical purposes it is useful to divide the functions that must be performed into (i) the science advisory

function for the President, and (ii) the science policy function for the Executive branch. Although they overlap, there is a difference between an intimate advisory role for the President, and a broader science and technology "management" or policy role for the government as a whole. The first involves a close personal association with the President in a White House staff relationship, bringing to his attention scientific and technological aspects of policy issues under consideration, and representing him in dealings with other parts of the government. The second implies all the problems of allocation of resources for science and technology, reconciliation and integration of multi-agency programs, evaluation of the quality of agency R & D programs, early warning of technology-related problems, and concern for the health of the R & D community, for science education, and for other policy issues directly related to or bearing on science and technology.

In practice a sharp demarcation between these two functions is not possible; there is a difference of emphasis only. The PSAC and later the OST clearly felt responsible for both. Yet one of the two could be represented at the White House level without the other, depending on a given President's preferences. In fact, we would argue

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that it was the statutory identification of, and, indeed, confusion between the two functions, and OST's persistence in attempting to fill both simultaneously when the advisory function was withering on the vine, that contributed to the ultimate demise of the office. The science policy function, if justifiable at the presidential level, can give an institution permanence; the advisory function will always depend on the variations of presidential style and politics.

Science Advisory Function for the President

There is presumably no reason to debate at this time the need for scientific and technological advice at the presidential level. The significance of the various technology-rich security, energy, environmental, and other issues that a president personally must face are obvious. Equally evident is his difficulty in obtaining technical judgments that he can grasp and then interpret in relation to the political and other considerations which he must also weigh in these issues.

But agreeing that there is such a need does not determine how that need should be met. This science advisory function could be performed within the National Security Council (NSC) and domestic council structures or as part of Office of Management and Budget (OMB), through a single person with a small staff in the White House, or through a CST. Whatever mechanism is established, it will have to take into account that every President has his own working style and pattern of White House relationships, and that these cannot be determined by others. The primary political lesson from the OST experience is that it is not possible to legislate an intimate advisory function for the President. In fact, institutions at that level with political power independent of the President almost certainly will be ignored and probably will be destroyed.

Ultimately the President's test of a successful science advisory apparatus is whether it helps him politically while still preserving its own intellectual integrity and unique perspective. It can help him by suggesting new policy or program initiatives for which he can take personal credit or by being foresighted about science and technology issues that are likely to cause controversy. The science adviser can keep the

President from allowing problems to fester until they can be used by critics and from putting the President's political prestige behind projects and policies that are likely to fail eventually because they are unsound scientifically. In many cases the science adviser can retain credibility not by directly opposing presidential views on policy grounds, but rather by clearly and forcefully warning the President of the political consequences before and not after he embarks on certain courses. Or, the adviser can help provide a scientific evaluation and justification for initiatives a President might desire to take on political grounds, or make sure after the fact that the implementation of such initiatives is technically sound and not undermined by the biases of the departments and agencies. The PSAC played that role with respect to the early bilateral science agreements with Japan and the Soviet Union and many aspects of the space program, and it could, if it still existed, be continuing that role in relation to Project Independence and to the growing number of bilateral agreements for science cooperation.

The most difficult problem is in the national security area. Here the President's need for scientific and technological advice independent of the Defense Department and other security-related agencies is crucial. In fact, the primary contributions of PSAC were not only in advice to the President, but often in direct relations with the Pentagon. But the special assistants for National Security Affairs since 1960 were never fully comfortable with a role for PSAC in this area and increasingly tended to reduce PSAC influence. Over time, PSAC's influence in the security area was far less than it was in the late 1950's and early 1960's, and far less than was in fact needed.

There may, however, be alternatives. If there is no science advisory office close to the President, another possibility for security issues could be the creation of a science advisory staff within NSC, although such a staff would be hard to establish with adequate size and continuity. However, if there were a science advisory office, joint staff assignments between NSC and the science office, as developed between OST and NSC for a time, could be a valuable coupling. One way or the other, a science advisory function in the security area for the President is critical.

In sum, for the presidential advisory function we believe that some mechanism is essential but that it must be established anew by each President. It can take many different forms; but if a stable, politically savvy, high-quality staff in the Executive Office of the President was already performing the science policy function, and, therefore, was ready at hand, it could be the likely candidate for a personal advisory role. But such a staff must have a continuing reliable foundation if it is to be "ready at hand" for each President, and it must be competent to carry out both functions, recognizing that they can compete as well as be mutually supportive.

Science Policy Function for the Executive Branch

One component of the role for which PSAC and later OST were created was to oversee a burgeoning federal responsibility for science and technology. The situation today is not basically different from what it was in the late 1950's and early 1960's as far as R & D is concerned. The federal budget for R & D is larger, though not in relation to the gross national product. R & D allocations continue to be made annually at department levels based on the missions of those departments. Scientific and technological competence is much more widespread throughout government, but science and technology are also more intimate parts of all policy issues than ever before.

However, there are some other changes as well. In contrast to defense and space programs, technical programs in support of the solution of social problems tend to conform much less easily to the functional organization of the Legislative and Executive branches. Whereas high technology programs in defense and space are largely concerned with means to serve agreed goals, technical programs to solve social problems more often are concerned with alternative goals as well as means to achieve goals. These programs characteristically cut across agency objectives and capabilities in ways that make overall planning both more essential and more difficult. The fact that political, economic, and other nontechnical or semitechnical considerations are much more prominent in the key decisions regarding future directions in such policy areas as energy, transporta-

tion, environmental planning, health care delivery, and food supply, adds to the need and difficulty of overall planning.

As the pace of both social change and expectations accelerate, planning for future needs, assuring timely investments in specific technologies, and avoiding premature commitment to the wrong large-scale systems loom as much greater imperatives than even 15 years ago. An early warning capability to foresee problems requiring R & D investment well before the problems require crisis treatment thus takes on immensely important proportions.

The growing complexity and resulting inertia of government make it increasingly critical that policies once decided have adequate oversight and are then followed through. For all the well-understood reasons, the political forces at work in multiagency issues, aided and abetted by the pattern of organization and influence of Congress, tend to dilute or divert changes of policy direction unless continuous oversight is maintained.

The slow but hopefully real signs of change in the Congress, where there is a developing capability to examine scientifically and technologically related issues on a broader base than in the existing committee structure, calls, in turn, for a matching capability in the Executive branch. The Office of Technology Assessment and the new congressional budget office could become powerful factors in challenging Executive branch policies or the lack of them. Or, the argument can equally be turned the other way: A strong science policy focus in the Executive branch would contribute significantly toward bringing forth a competent congressional response, thus strengthening the Congress' capabilities in science and technology, and in turn assuring a more intelligent and relevant public debate on such issues.

Perhaps there is no area of government activity where the conflict between immediate needs and long-range capabilities for problem-solving is more evident than in the application of science and technology to immediate needs. The growing pressure for visible, measurable, usually short-term pay-offs of research at the expense of long-range research, while not confined to one Administration, may, in fact, require continuous vigilance and political mobilization on the part of leaders of the scientific community if long-term

injury to the national scientific potential is to be avoided.

But even for this function, it is not self-evident that a new office is needed. At least some of the needs mentioned above, in particular those involving budgetary and related allocation questions, could fall quite naturally within the purview of the OMB. Others, such as "early warning," do not necessarily have to be carried out above the level of the departments and agencies. In fact, some needs, such as concern for the health of the scientific and technology community, may require advocacy roles that conflict with other functions in which a more disinterested approach is necessary.

A strong argument, moreover, could be made for an effort to build the right kind of scientific and technological competence within the OMB and the Domestic Council and to strengthen the NSF Science and Technology Policy Office to perform long-range analyses. Such a solution would avoid creating a new Executive Office agency and would more importantly bypass some of the inevitable problems of an office at the White House level having both management and advocacy roles.

On balance, however, we believe the case is stronger for re-creating an instrument in the Executive Office of the President with science policy functions as we have outlined them.

1) Over many years OMB has never shown a willingness or ability to build the kind of staff able to oversee with substantial technical insight the science and technology activities of the government. This is particularly evident with regard to defense programs, on which OMB has had little influence overall. Even if OMB attempted to build an adequate in-house technology competence, such an office would likely be so tied to the annual budget cycle and so sensitive to pressures to limit expenditures that it would be difficult to carry out those functions requiring a different time perspective. In addition, multi-agency program initiation and oversight, usually involving other issues beyond budgetary matters, would be exceedingly difficult to carry out reasonably from an office with predominantly budgetary concerns.

2) Whatever value the science policy office in NSF can have, and that can be substantial, it simply cannot be expected to perform politically difficult management functions that involve influencing or controlling programs of

large rival departments. If nothing else, the key to flushing out problems and evaluating progress and potential is access to detailed, accurate information from the working level. As difficult as it is for a White House office to get accurate information when agencies do not want to give it, it would be impossible for NSF, which must work largely through approved channels.

3) The foreign policy role that is needed, discussed below, cannot be carried out at all adequately from either OMB or NSF.

4) A strong focal point in Congress requires a strong focal point in the Executive Office where all the threads can be gathered together.

5) Our last argument for a strong science policy office is simply our hope that such an office would in fact also be used as a close presidential adviser. It cannot be used, however, if it does not exist.

Thus, we believe an Executive Office mechanism for science policy is the best solution, although there are important problems that must be faced. The precise structure is not as important as its mandate, though we believe a three-man office or council makes sense as a way of dividing what will quickly become difficult burdens. It should be a council serving at the pleasure of the President, to insure his acceptance of it as part of his Administration, though the staff might well be a continuing one.

To make it possible for such a council to serve in a presidential advisory role, the science policy function must be distinguished from operational responsibility for specific interagency programs. The OST got into difficulties when its operational responsibilities conflicted with its advisory responsibilities and it found itself in the position of being both the promoter and critic of particular scientific programs in such areas as atmospheric sciences, oceanography, and water resources. Even with the most conscientious efforts to be objective, it was seen by operating agencies with different priorities, and by congressional committees, as having a particular program axe to grind; and this tended to erode its credibility as a disinterested advisory body even in areas where no such conflict of interest existed.

The initiative of the Executive Office will sometimes be needed to get important new programs off the ground, but any such initiative should be under-

taken with the clear understanding that operational responsibility would be transferred as soon as possible to existing agencies or new interagency mechanisms separate from the Executive Office. The role of PSAC in the creation of the National Aeronautics and Space Administration (NASA) out of the old National Advisory Committee on Aeronautics (NACA) is the kind of proper transitional responsibility we have in mind. Except temporarily, an Executive Office agency should not be placed in the position of having to promote a new technical program while at the same time being expected to balance it in an objective way against existing programs within agencies.

Objectivity of Scientists and Engineers

The very intimate relation of scientific and technological factors with broader aspects of policy issues means that scientific and technological inputs alone are far from enough if a council is to do its job adequately, a point that the NAS study mentions but does not demonstrate that it fully appreciates. In fact, the NAS study points out how large is the group of qualified scientists and engineers who can "provide counsel with respect to major societal matters that entail a strong scientific and technological component." However, the study indicates only that they should have broad experience in administrative and political tasks within their professions and personal qualities of "intelligence, wisdom, judgment, humanity and perspective." These qualities are so obviously desirable for anybody in a high position that they are hardly helpful criteria for the selection of scientists.

The qualities required have to do more with the ability to understand the political and economic setting sufficiently so that the scientific and technological factors may be seen as intimate interacting parts. In other words, the individuals should be able to translate policy concerns into questions about relevant science and technology; should be able to relate scientific and technological uncertainties to political choices; should understand the impact of policy objectives on technological development; and should be able and willing to enter the political and institutional competition inherent in the making of policy. But all these abilities require a sophistication in the nontech-

nical aspects of policy issues, as well as in the scientific and technological components. These are not widespread talents, nor are they easily acquired. The subset of qualified individuals is not defined by the number of scientists and engineers in management posts in their professions, as the NAS report states. Nor, we might add, is the subset made up only of scientists and engineers. The need for such abilities is demonstrated by the PSAC and OST studies outside the national security area, studies that were both prescient and ineffective.

For almost every crisis problem of the 1970's there is a PSAC or OST report which foresaw the problem and recommended a research program to do something about it. But in almost every case OST failed to get the attention of top policy-makers sufficiently to raise the issue to the necessary level of political visibility to generate concern and action. Authoritative, scholarly reports were produced, but little else. And the subject tended to die after a little flurry of attention.

Why? Basic researchers and academic scientists have a professional bias which assumes that if only the facts and understanding are made available, society will automatically appreciate their implications and act accordingly. The PSAC has by-and-large represented this orientation, and most of its reports failed to translate their analyses sufficiently for politicians to understand their significance in their own terms. The energy report did not say how the energy supply situation might reflect on the American economy and our foreign policy goals. The food report did not demonstrate that the world food problem might produce tangible political and economic effects that could embarrass an administration. The civilian technology report did not explain adequately how a lag in the development of civilian technology might ultimately contribute toward undermining the U.S. international trade position and consequently the position of the dollar as a reserve currency. These failures were not merely failures of political skill and salesmanship; they represented deficiencies in analysis of the problems involved, because the understanding of political and economic implications was considered to be outside PSAC competence, in the province of the politicians. There remained a deep intellectual gulf between the scientific analysis and the policy pressures and options faced, or

soon to be faced, by decision-makers. This was a real intellectual gulf, not just political naiveté.

Of course, a difficult dilemma is faced here. The more the political implications of scientific advice are explicitly dealt with, the more it is necessary to depart from the domain of "objective" and "value free" analysis, which has helped to make scientific advice acceptable to politicians and the public in the first place. But there is a fair amount of mythology on this question of objectivity and value-free analysis on the part of scientists and engineers that needs to be straightened out.

There is no question that in their professional capacities scientists and engineers must live by an ethic of objectivity. Whatever their intent, however, scientists and engineers are subject, on policy issues, to biases and prejudices just as are others. The issues on which advice is sought at the higher levels of government are almost always ones in which technical uncertainty is high, important evidence is lacking, and associated nontechnical issues are contentious and critical. Judgment on both technical and nontechnical issues and on their interaction is thus required; a logically reasoned single answer is not possible. Judgment is necessarily affected by biases, policy preferences, ignorance, differing estimates of the nontechnical factors, and other vagaries. There is nothing wrong with this; it is unavoidable.

But it must be recognized, contrary to the impression left by the NAS report, that a council of scientists cannot provide purely "objective" analyses. What such a council will do is give another view, a different and fresh perspective; and, on issues not involving its own institutional loyalties, it may in fact be a more disinterested view than that of the agencies of government whose bureaucratic interests are more directly involved. But its objectivity is only relative, and very much affected by the nature and implications of the particular question that is being considered.

On the other hand, we must be careful here not to imply a simple politicization of the science advisory function. There is a difference between purely political advice and the kind of analysis performed with a clear attempt to attain as much objectivity as possible. In scientific and technological matters this is often easier than in other fields because at least some part of every prob-

lem is factual and verifiable. Moreover, scientists and engineers often carry influence to the extent that they are seen to be objective and outside the normal policy battles. These are valuable attributes that deserve to be preserved and utilized, for increasingly society requires institutions that are seen to be in some sense disinterested and able to be relied upon for independent judgments.

Our point is that this is a matter of degree, and that it should not be assumed that the advice of scientists and engineers on policy questions is totally disinterested. Nor should it be accepted that science advice can be no more "objective" than any other personal or political input. There is a value to striving for objectivity; we just must recognize that it has its limitations, and that the greater the range of uncertainty in the technical answers, the wider the door for entry of differing policy perspectives.

The NAS committee itself demonstrates this problem. Its conclusions were surely influenced by the fact that a large majority of the committee members and its executive assistant had been heavily involved in PSAC in the past, yet this fact is never mentioned. It is also curious that the role of science and technology in society is referred to almost exclusively in positive terms. The widespread public concerns over the negative effects of technology are only hinted at, and never addressed directly.

On the other side of the same coin, it must be recognized that a CST will be assumed by others to be an advocate, whether intended or not. Moreover, it must and should be concerned with the health of science, which necessarily involves some advocacy. There is no avoiding this conflict between advocacy and objectivity; it can, in fact, be dealt with in practice, but it must be recognized if there is to be any chance of dealing with it.

The foregoing discussion suggests that advice about science and technology must somehow be better integrated into political and social thinking about the future of the country. There is a need for "interpreters" who think more like politicians and policy-makers, but are still not bound by the exigencies of short-term political considerations. The need is for people who can talk to both the scientists and the politicians continuously, but not feel themselves fully identified with either.

In the light of this discussion, the makeup of the three-man council is particularly difficult to define. Certainly, all or most of the members should have the confidence of the scientific and technological communities in the sense that they will insure the highest professional standards. But, the council members must not be simply representatives of the communities; their scientific credentials are a necessary but not sufficient condition for effectiveness in the advisory function. Perhaps one way to proceed would be for the President to seek lists of candidates from recognized bodies in the scientific and engineering communities, such as the NAS and the National Academy of Engineering (NAE), from among which he would hope to choose. He should not be bound by such nominations, but they would set a standard to help avoid the danger of appointing those whose views are regarded as extreme or eccentric among scientists and engineers, or those who are politically active but of low scientific quality of judgment.

It is also entirely reasonable that one or more members of the council not be scientists. Rather, they could come from a growing group who are sensitive to scientific and technological issues and have the experience and ability to relate these to the political environment and to political choices. Presumably, many on the staff of the council would also have these characteristics.

Public Access

One of the more difficult questions, much less pertinent in the early days of PSAC and OST than today, is the degree to which a science office at the White House level should be accessible to public scrutiny of its meetings and reports. In part, this is a matter of law as a result of the Federal Advisory Committee Act and the Freedom of Information Acts as well as the precedents set by the turmoil of Watergate. In part, too, it is a matter of policy as a result of the need for an electorate better informed on the implications and opportunities of science and technology.

Our judgment on this issue follows the distinction made between a science policy function for the Executive branch and the science advisory function for the President. The science policy function can more readily be

and is now required to be a relatively open process with some public access to committee meetings, published reports, and the like. Without destroying the office's effectiveness and access to information it should not be too difficult to devise a pattern allowing considerable openness on some issues, or on some parts of the process.

This openness would also be particularly helpful in making it possible to obtain more inputs from nongovernmental sources, including more of the scientific "grass roots."

With the detached air of those not bearing the responsibility, we also heartily endorse the proposal often made that a science policy office should be required to issue an annual report on some aspects of the state of science and technology in the United States. That could be a powerful educational and policy tool, useful for the Congress and the public, as well as a vehicle for forming Administration science policy.

The presidential advisory function, however, cannot be open to any appreciable extent. Aside from problems of classified material, a president requires confidentiality of his advisers on substantive policy issues. When policy is being formulated, the President should consider the widest possible variety of options. Early disclosure can alert powerful lobbies to seek to block consideration of options adverse to their perceived interests. Premature publicity regarding options subsequently rejected can embarrass the President and ensure that he will not consult his advisers until his own mind is fairly well made up. The last thing that endears advisers to a President is their adding to his political problems rather than helping to solve them.

This dichotomy does serve to create a possible barrier to a President's willingness to use as his personal staff advisers a council whose members operate with some public access to their deliberations. The problem should be manageable, however, with some clear rules of procedure. As with so many problems, this one can probably be dealt with effectively if it is recognized from the outset.

Relations with the Scientific Community

The relations between a CST and the scientific and engineering community in

the country are important and not at all likely to be simple. The question is whether it is or seems to be representative of scientific and technological interests or whether it is in some sense independent and objective. As we have already said, the problem of objectivity and advocacy is unavoidable, but it must be acknowledged and plans should be made to avoid its pitfalls. With regard to relations with the community at large, a CST would have to go to considerable lengths and exercise unusual discipline to avoid responding directly to lobbying by scientists and their professional organizations. The NSF can much more appropriately perform that lobbying role, and with the existence of a council it would have an understanding ear at court.

Even in its relations with NSF, a CST should not simply treat NSF's proposals and budgets more sympathetically than others, but as critically as it treats other agencies. A council's influence with other White House bodies is likely to erode, as did OST's, if it is perceived, even unjustly, to be insufficiently critical with its "own" constituency.

The reorganized NAS and NAE and the Institute of Medicine (IOM) present a special situation. Their large and strong capability both for mobilizing scientific competence from outside the government for analysis of many public issues or for evaluating the state-of-the-art in fields of science and technology is too valuable not to be used heavily by a CST. But the work inevitably carries the tag of coming from the heart of the science "establishment" and does in fact tend to reflect the implicit biases of this group of scientists and engineers.

The CST's job, then, would be to use NAS, NAE, and IOM, but to recognize that inputs from those organizations are only one of those it must have. In any case, as we discussed earlier, the CST must be so acutely aware of the need to present its findings in terms useful to its immediate clients that it should never be in a position of uncritically adopting outside reports as its own.

International Dimension

When it comes to attempting to define the role of a White House science office in the nonmilitary aspects of U.S. foreign policy, and particularly with the Department of State, most

observers are reduced to vague hand-waving. The reasons are not hard to find.

The Department of State itself has never been able to build the level of internal science capability to which it has repeatedly committed itself. Its present science office is the strongest it has ever had, but we believe that even the last director, Herman Pollack, would agree that it needs substantial changes. With weak internal competence in State in the past, it was difficult for PSAC to relate effectively and usefully to the department.

A more fundamental reason for weakness in the Department of State is the fact that many of the foreign policy issues with important technological aspects—now covering an increasingly wider portion of foreign affairs—are issues in which other agencies of government have a large and often commanding voice. Space, atomic energy, food, environment, oceans, to say nothing of defense, are all subjects in which the technical agencies of government have money, large staffs, and dominant control of complex esoteric information. The Department of State has neither money nor large staffs in these areas nor great competence in the individual technologies. And yet it is expected to cover all issues while each of the other agencies can focus on its area of primary concern.

The situation is ripe for change. A new office, headed by an Assistant Secretary of State, has been created to be responsible for scientific, ocean, and environmental affairs. Dixy Lee Ray, recently head of the Atomic Energy Commission (AEC) has been named as the first incumbent. The office will have greater prestige within the department, and perhaps more personnel. A new advisory committee on Science and Foreign Affairs had earlier been established to help the Secretary of State; it now could be in a position to assist the new Assistant Secretary to tap outside expertise in order to avoid complete dependence on the technical agencies.

Thus, one possible answer with regard to CST's role in foreign policy is to wait until State is itself stronger so that there can be more effective interaction. But there are other factors that must be taken into consideration.

When one looks at the entire federal R & D budget, a curious fact emerges. A substantial portion of that budget, well more than half, is committed to missions which have strong foreign policy motivations and reper-

cussions: primarily the Department of Defense, some of the AEC, and some of NASA. A good portion of the rest goes for work in subjects that will affect foreign policy quite directly: agriculture, energy, oceanography, foreign trade, and population to mention just a few.

However, given this strong foreign policy motivation for federal R & D, the Department of State, the one department of government most concerned with foreign policy below the President, has essentially no voice in the allocation of those R & D resources. Instead, other departments and agencies rely on their own interpretation of what serves foreign policy goals in setting their R & D objectives. The President and Executive Office agencies (NSC and OMB) oversee the process, but only in the most general terms. The Department of State merely has to cope with the consequences.

Perhaps the Department of State never can do much to become a real participant in R & D allocations, although we believe the attempt has never seriously been made. If it were undertaken, a CST at the White House level could be a powerful, even an essential ally.

Quite apart from what the Department of State does, however, it seems clear that a CST in its science policy role must attempt to fill this important gap. It must make a concerted, self-conscious effort, more than PSAC ever attempted, to keep foreign policy concerns constantly before it in all the subjects with which it deals. This will have implications for membership, for staffing, and for the agenda; but it is an important requirement not now being carried out adequately anywhere in government. There is no other candidate agency within the Executive Office of the President, and even if State were better able to participate, it would need help.

Last, it is well to point out that bilateral science and technology agreements are becoming a more frequently used tool of presidential diplomacy. While it would be a mistake for a White House science policy office to have operating responsibility for those agreements, there certainly needs to be a capability for overseeing the agreements and their execution at a level above that of the departments. The NSF director, in his capacity as presidential science adviser, is performing that function now; but operational responsibilities are scattered among sev-

eral departments and agencies, and in practice there is relatively little policy coordination. The overview of OST is now sorely missed by those most heavily involved in carrying out the agreements.

Other Issues

Many other issues deserve detailed attention, but these cannot be covered in a brief article. Let us mention just three: (i) How should the social sciences be represented, if at all? We believe it is essential that the social sciences be included in the science policy mandate of CST, although the means for doing so merit more discussion. (The NAS report does not mention the social sciences at all.) (ii) How is experience in other countries in their science policy structure relevant and useful for the United States? For example, is there merit in adopting the French practice of allocating a specific budget to the science policy office to be used for seeding new research areas or reorienting old ones? How has that actually worked in practice? To what extent is it applicable in the U.S. context? (iii) What of the recurring proposal for a cabinet-level Department of Science and Technology? We have not discussed this alternative in part because it does not seem to us

to be either viable or desirable, but in any case because a new cabinet department would not solve the problem of Presidential advice or Executive Office oversight. If such a department were created, it certainly would be a powerful force in scientific and technological affairs, but the broader technology-related policy issues and the need for integration of programs across departments and agencies would remain. The actors would be different, but the essential factors similar.

Summary

Thus, we are skeptical of the commonly stated arguments for re-creation of a science office at the White House, but are ultimately convinced that such an office is justified. A three-man CST is a reasonable proposal, although the detailed structure is less critical than the mandate given to the office, and the general understanding within government of its functions and limitations and of its relationship to the President.

To give it permanence, the office should be grounded in a science policy management and oversight function that is critically needed today. That kind of strong office could lead a president to use it as his personal science advisory staff, but the decision

must be made anew by each president. The President does have other ways of obtaining scientific advice, although the right kind of science office would be a preferable route in our view.

The importance of such an office being able to present its analyses and recommendations in policy terms useful to other policy-makers cannot be overestimated. This has important implications for the kind of competence required for staff and work with such a council; it also requires recognition of the fact that policy-relevant studies and advice can never be value-free, even when carried out by scientists and engineers.

And finally, such a council could bring intensive and continuous attention to the international dimension of U.S. science policy, which seems to us to be particularly neglected.

It is not yet clear whether there will be any structural changes in the new Administration. But it is not too soon to be clearer about the essential factors that should underlie a sensible proposal for this or the next Administration.

References

1. *National Academy of Sciences*, "Science and Technology in Presidential Policymaking—A Proposal," Report of the ad hoc Committee on Science and Technology, June 1974; G. B. Kistiakowsky, *Science* **184**, 38 (1974); E. B. Skolnikoff, *Public Sci.* **5**, (No. 6) 1 (1974); S32 The National Policy and Priorities for Science and Technology Act of 1974.