

Originally Processed With FOIA(s):
2005-0336-F

FOIA Number:
2005-0336-F

FOIA MARKER

**This is not a textual record. This is used as an
administrative marker by the George Bush Presidential
Library Staff.**

Record Group/Collection: George H.W. Bush Presidential Records
Collection/Office of Origin: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Personal Files

OA/ID Number: 62028
Folder ID Number: 62028-001

Folder Title:
D. Allan Bromley - Personal [1 of 8] [1991]

Stack:

Row:

Section:

Shelf:

Position:

0

0

0

0

"Document Control"

..TYPE: ACTION DOCUMENT NUMBER: 9125246
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: GAI, Moshe: BARYONS '92

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 12/19/91

SUBJECT: HE IS WRITING CONCERNING SEVERAL PROBLEMS HE FACES
WITH THE '92 CONFERENCE. HE IS ASKING DR. BROMLEY
FOR ANY IDEAS HE MAY HAVE.

DIRECTORATE STAFF
ASSIGNED: D. Allan Bromley ASSIGNED:

ACTION STAFF
REQUIRED: AS APPROPRIATE ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: 01/13/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO:

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 12/19/91
FILE: P-DAB-PERSONAL

DEPT RECEIVED:

CENTRAL FILES:

CLOSED

THE WHITE HOUSE
WASHINGTON

January 13, 1992

Dear Moshe:

I am responding to your letter of December 19 which took a remarkably long time to reach me. First, my letter to you indicated only that I had recommended that IUPAP sponsorship be given to you and clearly you should not assume that it has been awarded until you are notified to that effect.

With respect to the Law School auditorium, it seems clear that they have made the decision to begin the revision of the auditorium during the summer and I know of no good reason why they would be willing to upset what is obviously a very carefully balanced scheduling process to make the auditorium available to another department. I am afraid that this simply means that you will have to make other plans. If the Davies Auditorium is not large enough then the one in the Art School, I believe, does hold a number comparable to the Law School but it is less comfortable because as I recall the floor is flat and visibility from the back of the room can be substantially limited.

Having been through the organization of a number of large international conferences I am saddened to tell you that you have just begun to experience the kind of giant confusion that seems absolutely inevitable.

In one of the conferences I arranged at Yale, although we did manage to get the Law School auditorium, on the day before the conference the entire support staff of the university went on strike so that we had, at the last moment, to move the whole affair to a down town hotel with major impact on our budgets, transportation, and just about every other component of the entire meeting.

At the same time, I am sure that you will be able to sort them all out and that your meeting will be a great success.

I hope that 1992 is a healthy, happy and rewarding one for both you and Helen.

With all best wishes,

Sincerely yours,

A handwritten signature in dark ink, appearing to be 'D. Allan Bromley', written in a cursive style.

D. Allan Bromley
The Assistant to the President
for
Science and Technology

Professor Moshe Gai
Department of Physics
Yale University
WNSL - 272 Whitney Avenue
Post Office Box 6666
New Haven, Connecticut 06511

5246A



Baryons '92

International Conference on the Structure of Baryons
and Related Mesons June 1-4, 1992, Yale University

Co-Chairs

F. Iachello, Yale
N. Isgur, CEBAF

Local Organizing Committee

M. Gai, Yale-Chair
A. Chodos, Yale
E. Hadjimichael, Fairfield
R. Milner, MIT
B.L. Roberts, Boston

International Organizing Committee

S.U. Chung, Brookhaven
T.J. Goldman, LAMPE
B.K. Jennings, TRIUMF
T.-S.H. Lee, Argonne
B.Schoch, Bonn
J. Speth, Julich

Scientific Secretary

Moshe Gai
WNSL Department of Physics
Yale University
272 Whitney Avenue
New Haven, CT 06511
Telephone: (203) 432-5195
FAX (203) 432-3522
E-mail: GAI@YALEVM

RECEIVED
DEC 30 P 2 23
OSTP
MAIL ROOM

Professor D. Allan Bromley
Executive Office of the President
Office of Science & Technology Policy
Old Executive Office Building - Rm. 360
17th & Pennsylvania Avenue, N.W.
Washington, D.C. 20506

December 19, 1991

Dear Allan,

Thank you for your letter concerning the suggestion that IUPAP will sponsor Baryons '92 as a class C conference. With your permission I will append this letter to a grant proposal (\$4,500) to the NSF, for the support of participation of young researchers and students in Baryons '92. We heard from Jack Lightbody positive preliminary response. Including your letter in the appendix of our proposal, may help us ease the requirement of the NSF that international conferences be sponsored by IUPAP.

Allan, as you have solution for all sorts of problems, allow me to bother you with yet another one. As you know our University does not have very good conference facilities, especially for a conference with estimated size of 250 or more participants. We approached the Yale Law School for use of their newly renovated auditorium, including new air condition, soft chairs, new audio visual etc. The reception we received was courteous but cold, see attached letter of Dean Yandle. Perhaps you have an idea, perhaps you know someone that can help and make them more accepting... Just a thought, I am sure you have more important things to worry about... You can never blame me for not trying...

Sincerely,

Moshe Gai

Moshe Gai

MEMORANDUM FROM YALE LAW SCHOOL

To: Professor Moshe Gai

From: Stephen Yandle 

Date: December 13, 1991

I am a bit behind my promised timetable to notify you about possible use of the Law School for your conference this summer, but I wanted to give you as definitive word as possible.

At this moment it appears that we will begin major construction work on the building this summer. The work that we envision would have to begin as soon as classes are over and would effectly bar any use of the classrooms so I fear that the building will not be available for your conference.

We are working on the tightest of schedules to be ready to do the planned work this summer, and it is possible that we will not be ready and will have to postpone our work to the following summer. If such a delay should occur, we would be glad to revisit the question of your use of the building. Unfortunately such a development would not be known until mid-Spring, probably too late for your planning purposes, but do feel free to check back with us.

"Document Control"

TYPE: INFORMATION DOCUMENT NUMBER: 9125241
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS

FROM: GLOUDEMAM, Joseph F.: THE MacNEAL SCHWENDLER CORPORATION

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 12/19/91

SUBJECT: A LETTER INFORMING DR. BROMLEY OF HIS INTENTION TO
TERMINATE HIS EMPLOYMENT WITH MSC EFFECTIVE
01/31/92.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION STAFF
REQUIRED: ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: DR. BROMLEY

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 12/30/91 DEPT RECEIVED:
FILE: P-DAB-PERSONAL
CENTRAL FILES:

5241 I
THE MACNEAL-SCHWENDLER CORPORATION

RECEIVED

Dr. Joseph F. Gloudeman
Vice - Chairman

December 19, 1991

91 DEC 30

MAIL ROOM

Dear Dr. Bromley:

Merry Christmas and all the best for 1991!

Under normal circumstances you would be getting a Christmas Card from me at this time of the year. Instead, I am using this letter to inform you of my plans to terminate my employment at The MacNeal-Schwendler Corporation (MSC) effective January 31, 1992.

My 13 1/2 years with MSC have been full of wonderful experiences - especially because of the opportunity to work with such outstanding people from all over the globe.

I have no firm plans at the present time. However, I am exploring some very exciting possibilities with smaller companies with "hot" technologies. If you know of any opportunities, don't be bashful about bringing them to my attention.

Best regards,

Joe Gloudeman

P.S. I remember with pleasure

Dr. Allan Bromley
Assistant to the President
for Science & Technology
The White House
Washington, D.C. 20500

*our breakfast meeting at
the ABC meeting. Keep up
the emphasis on Science/Eng-
ineering - especially in
Education. Joe*

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9125267
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: KAN, Y.W.: UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 12/19/91

SUBJECT: HE IS FORWARDING A PHOTO OF HIMSELF WITH DR. BROMLEY
AND ASKS THAT DR. BROMLEY SIGN IT FOR HIM.

DIRECTORATE STAFF
ASSIGNED: DIRECTOR'S OFFICE ASSIGNED:

ACTION STAFF
REQUIRED: AS APPROPRIATE ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: 01/13/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO:

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

1.6.92 - Photo signed + sent!
mn

CLOSED

OSTP RECEIVED: 12/30/91 DEPT RECEIVED:
FILE: P-DAB-PERSONAL

CENTRAL FILES:

5267 A

YUET WAI KAN, M.D., F.R.S.
Louis K. Diamond Professor of Hematology
University of California, U 426
San Francisco, California 94143-0724
(415) 476-5841 FAX (415) 566-4969

RECEIVED

UCSF

University of California, San Francisco . . . A Health Sciences Campus

91 DEC 30 P 2: 21

December 19, 1991

COTT
MAIL ROOM

Dr. D. Allan Bromley
Office of Science and Technology Policy
The White House
Washington, DC 20500

Dear Dr. Bromley:

Enclosed is a photo taken with you at the 1991 National Medal of Science ceremony. I wonder if you would be kind enough to sign it and return it to me.

With warmest personal regards.

Sincerely yours,



Y.W. Kan

Enc.



"Document Control"

TYPE: Action DOCUMENT NUMBER: 9203366
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: Fisk, L. A.: NASA

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 12/16/91

SUBJECT: Status of grant to Sabatino Sofia at Yale. Wishes to
discuss matter further with you.

DIRECTORATE STAFF
ASSIGNED: D. Allan Bromley ASSIGNED:

ACTION STAFF
REQUIRED: As necessary ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: 01/07/92 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO:

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 12/23/91 DEPT RECEIVED:
FILE: P-DAB-PERSONAL
CENTRAL FILES:



Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01a. Letter	To: Allan Bromley From: L.A. Fisk Re: Status of Grant to Sabatino Sofia [personal information redacted] (1 pp.)	12/16/91	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Personal Files
WHORM Cat.:
File Location: D. Allan Bromley - Personal [1 of 8] [1991]

Date Closed:	3/8/2010	OA/ID Number:	62028-001
FOIA/SYS Case #:	2005-0336-F	Appeal Case #:	
Re-review Case #:		Appeal Disposition:	
P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

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 the 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.

PRM. Removed as a personal record misfile.

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

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

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01b. Form	Panel Consensus Evaluation of Proposal Submitted in response to NRA-91-OSSA-11 [personal information redacted] (2 pp.)		(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Personal Files
WHORM Cat.:
File Location: D. Allan Bromley - Personal [1 of 8] [1991]

Date Closed:	3/8/2010	OA/ID Number:	62028-001
FOIA/SYS Case #:	2005-0336-F	Appeal Case #:	
Re-review Case #:		Appeal Disposition:	
P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

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

PRM. Removed as a personal record misfile.

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(b)(4) Release would disclose trade secrets or confidential or financial information [(b)(4) of the FOIA]
(b)(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]
(b)(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
(b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
(b)(9) Release would disclose geological or geophysical information

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01c. Letter	To: Lennard .A. Fisk From: Allan Bromley Re: Status of Grant to Sabatino Sofia [personal information redacted] (1 pp.)	12/18/91	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Personal Files
WHORM Cat.:
File Location: D. Allan Bromley - Personal [1 of 8] [1991]

Date Closed:	3/8/2010	OA/ID Number:	62028-001
FOIA/SYS Case #:	2005-0336-F	Appeal Case #:	
Re-review Case #:		Appeal Disposition:	
P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

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

PRM. Removed as a personal record misfile.

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

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

"Document Control"

TYPE: ACTION

ORIGINATOR: 02

STATUS I

DOCUMENT NUMBER: 9125196

DIRECTORATE STATUS

FROM: FORBES, Nancy

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 12/17/91

SUBJECT: A LETTER UPDATING DR. BROMLEY ON HER CURRENT STATUS,
AND THANKING HIM FOR ALL HIS ASSISTANCE. SHE
REQUESTS HIS ADVICE ON CONTACTING DR. LEDERMAN AT
AAAS.

DIRECTORATE

ASSIGNED: D. Allan Bromley

STAFF

ASSIGNED:

ACTION

REQUIRED: AS APPROPRIATE

STAFF

ACTION:

SENDER'S DUE DATE:

OSTP DUE DATE: 01/06/92

STAFF DUE DATE

DATE COMPLETED:

DATE COMPLETED/DEPT:

COPIES TO:

WHITE HOUSE TRACKING #:

CONTACT PERSON:

PHONE:

EXT:

REMARKS:

12/30/91 - DAB called her!
mn

CLOSED

OSTP RECEIVED: 12/23/91
FILE: P-DAB-PERSONAL

DEPT RECEIVED:

CENTRAL FILES:

5196 A

54 Patricia Lane
South Setauket, N.Y. 11720
December 17, 1991
516-698-0766 (answering machine)
516-231-1919 x 225 (work)

OSTP
MAIL ROOM

Dr. D. Allan Bromley
Executive Office of the President
Office of Science and Technology Policy
Old Executive Office Building
Washington, D.C. 20506

Dear Dr. Bromley:

I wanted to write you a note to thank you again for all your support and assistance in helping me in my pursuit of a career in the science policy field. I also wanted to bring you up to date on my job search and tell you that I am currently waiting for a final word on the following positions:

- 1) The House Science Subcommittee, where I was interviewed for an opening as a member of the Professional Staff (as a result of the letter I sent to Rep. George Brown in June, at your suggestion).
- 2) NSF, where I applied for a vacancy as an Issues Associate in their Public Affairs Office, again as a result of one of the eight letters we sent in June. The position is currently on hold, and could re-open anywhere from 3 weeks to months, I was told.
- 3) Congressional Research Service -- I applied this past April for a vacancy as Science Policy Analyst, and was interviewed. I should be hearing something in a few weeks.
- 4) The position at EPA, about which I spoke to you on the telephone, didn't materialize as I'd hoped, due to lack of funding. I am currently trying to see if their budget constraints will allow them to take me on as a consultant.

I will, of course, let you know if I hear from any of the above. I so enjoyed reading the interview with you in a recent Physics Today. Like you, I am "shocked" and dismayed at how long it takes to get things accomplished in the federal government.

In the meanwhile, I would again be very grateful if you would keep me in mind should you hear of a suitable opening. Also, do you think it advisable to write Dr. Lederman at AAAS? If so, would you mind if I mentioned that I had discussed my career plans with you?

My thanks to you again for all your helpfulness. I look forward to keeping in touch, and my best wishes for the holidays.

Sincerely yours,
Nancy Forbes
Nancy Forbes

5196 A

*Called
See 30'al
mm.*

54 Patricia Lane
South Setauket, N.Y. 11720
December 17, 1991
516-698-0766 (answering machine)
516-231-1919 (x 2225) (work)

OSTP
MAIL ROOM

Dr. D. Allan Bromley
Executive Office of the President
Office of Science and Technology Policy
Old Executive Office Building
Washington, D.C. 20506

Dear Dr. Bromley:

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- 3) Congressional Research Service -- I applied this past April for a vacancy as Science Policy Analyst, and was interviewed. I should be hearing something in a few weeks.
- 4) The position at EPA, about which I spoke to you on the telephone, didn't materialize as I'd hoped, due to lack of funding. I am currently trying to see if their budget constraints will allow them to take me on as a consultant.

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In the meanwhile, I would again be very grateful if you would keep me in mind should you hear of a suitable opening. Also, do you think it advisable to write Dr. Lederman at AAAS? If so, would you mind if I mentioned that I had discussed my career plans with you?

My thanks to you again for all your helpfulness. I look forward to keeping in touch, and my best wishes for the holidays.

Sincerely yours,
Nancy Forbes
Nancy Forbes

"Document Control"

TYPE: INFORMATION DOCUMENT NUMBER: 9125162
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS

FROM: FINERTY, Michael: FINERTY CONSULTING

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 12/14/91

SUBJECT: RE: COMPUTER PROGRAMS AND SOFTWARE.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION STAFF
REQUIRED: ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 12/19/91 DEPT RECEIVED:
FILE: P-DAB-PERSONAL
CENTRAL FILES:

RECEIVED

91 DEC 19 P 1: 22

Michael P. Finerty
Finerty Consulting
2970 E. 5th Street
Tucson, AZ 85714

MAIL ROOM

December 14, 1991

Dr. C. Allan Bromley
Science Advisor to the President
The White House
1600 Pennsylvania Ave
Washington DC

Dear Dr. Bromley,

I have some old and some new matters to take up with you. First the new:

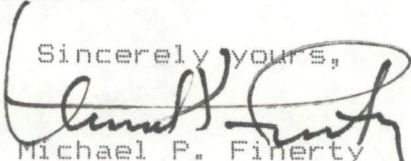
You are in receipt of a schematic diagram and a computer program for the excitor wire lengths of a Fractional Wavelength Tuned Linear Accelerator (FRAC) which I hope will be used as the basis of design of the injector of the SSC.

The same design can be used to make a high thruput pulsed neutron source for cancer therapy and Transmutation of Atomic Wastes (ATW) as suggested by researchers at Los Alamos. A properly designed FRAC comes into sync about 50,000,000 times a second; whereas, a synchrotron pulsed neutron source comes into sync only about 50 times a second. The ramp-up time of the synchrotron source is at fault in the speed of repetition of the pulses.

Alvarez linacs have a similar problem coming from the beat frequency between cavities, but neither problem affects the FRAC. Al Cassell at LLNL has a full set of my letters suggesting these devices.

Now for the old matters: a lot of my software and two of my computers were stolen from me last summer. This may have compromised the security of the IR SPID, my letters to President Reagan on the pointability of the SDI directed radiation weapons, etc. I now have a suspect in the theft; whether, or not espionage is involved is beyond my powers to say. However, the security of the things I worked on can no longer be assumed.

Sincerely yours,


Michael P. Finerty

"Document Control"

TYPE: INFORMATION

DOCUMENT NUMBER: 9125075

ORIGINATOR: 02

STATUS C

DIRECTORATE STATUS

FROM: LABAHN, Jon O.: INVENTURE PLACE

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 12/09/91

SUBJECT: HE IS PROVIDING DR. BROMLEY WITH A COPY OF THEIR
FUND RAISING BROCHURE AS WELL AS A BOOKLET
DESCRIBING THE INVENTORS WHO HAVE BEEN INDUCTED INTO
THE NATIONAL INVENTORS HALL OF FAME.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION STAFF
REQUIRED: ACTION:

SENDER'S DUE DATE:

OSTP DUE DATE: STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT: 12/18/91

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

CLOSED

OSTP RECEIVED: 12/11/91
FILE: P-DAB-PERSONAL

DEPT RECEIVED:

CENTRAL FILES:

5075

INVENTURE PLACE

HOME OF THE NATIONAL INVENTORS HALL OF FAME

Campaign Office
80 West Bowery
Suite 201
Akron, Ohio 44308-1170
216/762-6565
Fax 216/762-6318

RECEIVED
DEC 11 P2:23
OSTP
MAIL ROOM

MAIL ROOM

December 9, 1991

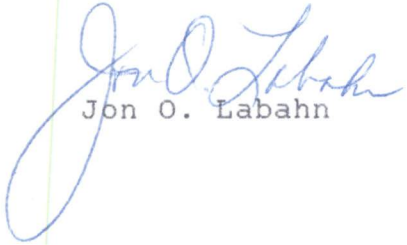
Dr. D. Allen Bromley
Assistant to the President
for Science & Technology
Old Executive Office Building
Washington, DC 20506

Dear Dr. Bromley:

Per the request of John Ong, please find
attached a copy of our fund raising brochure
and booklet describing the inventors who have
been inducted in the National Inventors Hall
of Fame.

If you need additional information, please do
not hesitate to call.

Very truly yours,


Jon O. Labahn

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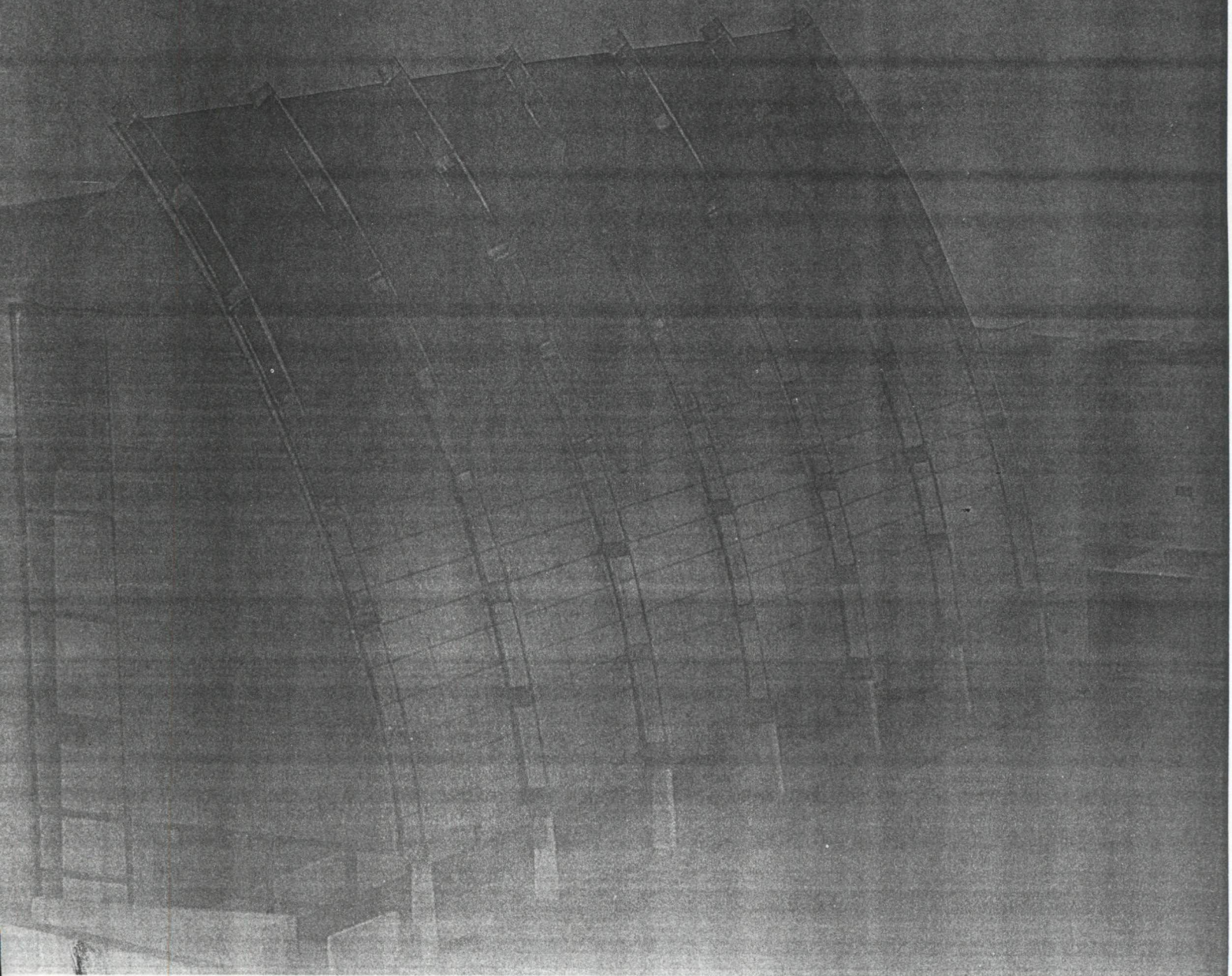
THE NATIONAL INVENTORS HALL OF FAME



1991

INVENTURE PLACE

HOME OF THE
NATIONAL INVENTORS
HALL OF FAME



THE WHITE HOUSE
WASHINGTON

December 18, 1991

Dear Dr. Labahn:

Many thanks for your letter of December 9 with which you enclosed your fund raising brochure and the booklet describing the inventors who have been made members of the National Inventors Hall of Fame. I congratulate you on your leadership in this important activity.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. Allan Bromley". The signature is fluid and cursive, with a large, stylized "B" at the end.

D. Allan Bromley
The Assistant to the President
for
Science and Technology

Dr. John O. Labahn
Inventure Place
80 West Bowery - Suite 201
Akron, Ohio 44308

"Document Control"

TYPE: INFORMATION
ORIGINATOR: 02

DOCUMENT NUMBER: 9125065
DIRECTORATE STATUS

STATUS C

FROM: KPMG PEAT MARWICK

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 12/05/91

SUBJECT: THEY ARE PLEASED TO ANNOUNCE THAT JOSEPH T. BOYLE
HAS ASSUMED RESPONSIBILITIES AS MANAGING PARTNER OF
THE WASHINGTON D.C. OFFICE, SUCCEEDING F. DAVID
FOWLER WHO WILL RETIRE FROM THE FIRM.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION
REQUIRED:

STAFF
ACTION:

SENDER'S DUE DATE:

OSTP DUE DATE:
DATE COMPLETED:

STAFF DUE DATE
DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #:

CONTACT PERSON:
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REMARKS:

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OSTP RECEIVED: 12/10/91
FILE: P-DAB-PERSONAL

DEPT RECEIVED:

CENTRAL FILES:

5065

KPMG PEAT MARWICK
IS PLEASED TO ANNOUNCE THAT
JOSEPH T. BOYLE
HAS ASSUMED THE RESPONSIBILITIES AS
MANAGING PARTNER
OF THE
WASHINGTON, DC, OFFICE.

HE SUCCEEDS
F. DAVID FOWLER
WHO WILL RETIRE FROM THE FIRM
ON JUNE 30, 1992,
AFTER SERVING CLIENTS FOR 29 YEARS.

 **Peat Marwick**

2001 M STREET, N.W.
WASHINGTON, DC 20036
(202) 467-3000

THE WHITE HOUSE

WASHINGTON

December 19, 1991

Dear Joe:

Warmest congratulations on your appointment as managing partner of the Washington, D.C. office of KPMG Peat Marwick! This is a major responsibility that I know you will handle with both style and effectiveness based on the more than 20 years that we worked together on the affairs of UNC Incorporated.

I have had only tangential contact with the UNC Board since my arrival in Washington but the impression I get is that Dan Colossy has finally turned into a successful company by shearing off many of the difficult subsidiaries.

Please give me best regards to David Fowler on his retirement from your firm. It was a pleasure getting to know and work with him over the years as well. I gather that Steve Harlan is now in New York and hope that all goes well for him.

Let me take this occasion to wish you a very merry Christmas and may 1992 be a very happy, healthy and rewarding year for all of the Boyles.

Sincerely yours,



D. Allan Bromley
The Assistant to the President
for
Science and Technology

Mr. Joseph T. Boyle
KPMG Peat Marwick
2001 M Street, Northwest
Washington, D.C. 20036

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9125134
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: SIMPSON, Kiernan: CANADIAN WHO'S WHO

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 12/01/91

SUBJECT: THEY ARE PROVIDING DR. BROMLEY WITH THEIR COPY OF
HIS BIOGRAPHY FOR APPROVAL, AND ARE OFFERING HIM AN
ADVANCE OPPORTUNITY TO ORDER.

DIRECTORATE STAFF
ASSIGNED: DIRECTOR'S OFFICE ASSIGNED:

ACTION STAFF
REQUIRED: AS APPROPRIATE ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: 12/31/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

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OSTP RECEIVED: 12/17/91 DEPT RECEIVED:
FILE: P-DAB-PERSONAL

CENTRAL FILES:

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CANADIAN WHO'S WHO

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December 1991

David Allan BROMLEY
Asst. to Pres. George Bush
Office of Sci. & Technol. Policy
Extve. Office of the Pres.
The White House
Washington, DC 20506

OSTP
MAIL ROOM

SPECIAL PREPUBLICATION OFFER
TO CANADIAN WHO'S WHO BIOGRAPHEES:
20% OFF THE REGULAR PRICE OF THE 1992 EDITION

Dear Biographee:

We are attaching a copy of your biography as it will appear in the 1992 edition of the CANADIAN WHO'S WHO, scheduled for publication July 1992. **Please approve and return the biography to the address above by 10 JANUARY, even if no changes are required.**

If you provided us with corrections and/or additions when we mailed your biography to you several months ago, they will be included in this final version. We would appreciate it if you would make only essential changes on this final copy. (Indicate where new material should be inserted, draw a line through copy to be deleted, and print all additions clearly below the last line of text.) Note that missing accents in your name and address above need not be corrected, but check your biography carefully to ensure that any special accents are rendered correctly.

As has always been our custom, we are making copies of the 1992 edition available to biographees at a special prepublication price, a saving of 20% on the regular price.

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Please note that each edition of CANADIAN WHO'S WHO goes completely out of print. No previous editions are available. We hope you will take advantage of this generous offer.

Yours sincerely

Kieran Simpson (Mr.)
Editor, CANADIAN WHO'S WHO

BROMLEY, David Allan, B.Sc., M.Sc., M.A., M.S., Ph.D., D.Sc., D.Eng.Tech., Sc.D., F.A.P.S., F.A.A.S., F.R.S.A. (London), Dr. Nat. Phil. (Frankfurt); Dr. d'Etat, Science (Strasbourg); Dr. Sc.(Queen's); Litt. D. (U. of Bridgeport); Sc.D. (U. of Notre Dame); D.Sc. (U. of Witwatersrand); Dottore-Science (U. of Padua); Hu.L.D. (Univ. of New Haven); D.Sc. (Trinity Coll.); physicist; university professor; b. Westmeath, Ont. 4 May 1926; s. Milton Escort and Susan Anne (Anderson) B.; e. Queen's Univ., B.Sc. (Engn. Physics) 1948, M.Sc. (Physics) 1949; Univ. of Rochester, M.S. 1950 Ph.D. (Nuclear Physics) 1952; Yale Univ., M.A. 1961; m. Patricia Jane, d. Thomas Patrick Brassor, Kingston, Ont., 30 Aug. 1949; children: David John, Karen Lynn; ASST. TO PRES. GEORGE BUSH FOR SCIENCE AND TECHNOLOGY; Dir., White House Office of Science and Technology Policy; Chrmn., President's Counc. of Sci. & Technol. Advisers; currently on indefinite leave from the Henry Ford II Professorship at Yale; Henry Ford II Prof. of Physics, Yale Univ. since 1961 and Chrmn. of Dept. 1970-77; Dir., A.W. Wright Nuclear Structure Lab. 1962-89; Operating Engr., Ont. Hydro Elect., 1946; Demonstr., Queen's Univ., 1947; Jr. Research Offr., NRC (Can.) 1948; Univ. of Rochester, Instr. 1952-54, Asst. Prof. 1954-55; Atomic Energy of Canada Ltd. 1955-60 (Assoc. Research Offr., 1955-56; Sr. Research Offr., 1957-60; Sec. Head, Accelerators, 1958-60); Assoc. Prof. of Physics, Yale Univ., 1960-61 and Assoc. Dir. Heavy Ion Accelerator Lab.; with J.M. McKenzie devel. first room temp. semiconductor nuclear detectors and first used these in nuclear research; with E. Almquist first used light helium isotopes as projectiles in nuclear research; discovered first nuclear molecules; with H.W. Fulbright designed and built first variable energy cyclotron; with Chalk River and High Voltage Engr. staff devel. first tandem accelerator and first Emperor tandem accelerator respectively; with J. Birnbaum (IBM) devel. first completely integrated computer based nuclear data acquisition system; pioneered in use of heavy ion beams in precision study of nuclear phenomena; Dir., UNC Inc. 1967-89; United Illuminating Co. 1972-89; Union Trust Co. 1975-89; Northeast Bancorp Inc. 1975-89; Chronar 1984-85; Barnes Engineering Co. 1981-85; Oak Ridge Assn of Univs. 1968-72; Southeastern Universities Rsch. Assn. 1982-89; Univ. of Bridgeport 1979-86; Associate Ed., McGraw Hill Book Co. 1970-89; Consulting Ed. Nuclear Instruments and Methods; American Scientist; Annals of Physics; Il Nuovo Cimento; Nuclear Science Applications; Science, Technology and the Humanities; Journal of Physics; Technology in Society; Consultant, Brookhaven, Los Alamos, Argonne, Oak Ridge Nat. Labs., Bell Telephone Labs., IBM Corp., High Voltage Engr., Gen. Telephone and Electronics Co.; awarded Gov. Gen. of Canada Medal 1948, Queen's Univ. Medal 1948, Shell Fellowship 1949, NRC (USA) Fellowship 1952, Guggenheim Memorial Fellowship 1977; Humboldt Prize 1978, 1982 and 1984; Distinguished Alumnus Award, Univ. of Rochester 1985; U.S. National Medal of Science 1988; D.Sc.: Renssdaer Polytechnic; Polytechnic Univ. of N.Y.; Ohio State Univ. Fordham Univ.; Coll. of William and Mary; Northwestern Univ.; Lehigh Univ.; D.Eng.Tech., Wentworth Inst. of

Technol.; Sc.D., Illinois Inst. of Technol.; Chrmn. U.S. Nat. Comte., Internat. Union of Pure and Applied Physics; Pres. Int'l. Union of Pure and Applied Physics; Chrmn., Nat. Physics Survey Comte., Nat. Acad. Sciences; Chrmn., Office of Physical Scs., N.R.C.; mem. Candn. Assn. of Physicists; Conn. Acad. Science & Engn.; U.S. Nat. Acad. of Sci.; Fellow, Brantford Coll., Yale Univ.; Am. Acad. Arts & Sciences; Am. Assn. Advanc. Science (Chrmn. Physics Sect. 1977); Pres., Am. Assn. Advancement of Sci. 1979, Chrmn. 1982; mem., Adv. Bd. Inst. for Nuclear Power Ops. 1981-83; Electric Power Research Inst. 1982-86; mem. Counc. on Foreign Relations; mem., Extve. Bd. International Counc. of Scientific Unions; Benjamin Franklin Fellow, Royal Soc. of Arts (London); mem. at Large, Nat. Research Council (Chrmn. Comte. on Nuclear Science NAS-NRC) 1963-78; mem., Naval Sc. Bd. NAS-NRC 1973-78; High Energy Physics Adv. Panel, ERDA 1972-78; Nuclear Sci. Adv. Comm. USDOE/NSF 1979-85; Jt. U.S.-U.S.S.R. Working Group on Science Policy and on Research on Fundamental Properties of Matter; Chrmn., CSCPRC formal U.S. nuclear science delegation to Peoples Republic of China 1979; Chrmn., Gandhi-Reagan Blue Ribbon Panel on Indo-US Cooperation in Science and Technology; Chrmn., Sarney-Reagan Blue Ribbon; Panel on Brazil-US Cooperation in Science and Technology; Mem., White House Science Council 1981-89; Mem., U.S. National Science Bd. 1988-1989; Extve. Comte. and U.S. Nat. Comte., Internat. Council of Scientific Unions; Chrmn., Jr. Faculty Fellowship Ctte., David and Lucile Packard Found. 1988- ; co-author of 'Proceedings of the Kingston Conference' 1960, and 'Perspectives in Physics' 1969; 'Physics in Perspective' 1972-73; author of over 450 publ. in scient. and tech. lit.; 'Large Electrostatic Accelerators' 1976; 'Detectors in Nuclear Science' 1978; 'Nuclear Science in China' 1980; 'Heavy Ion Science' 8 vols., 1984; Sigma Xi; Presbyterian; recreations: archeology, music, photography; golf; Clubs: Mory's (New Haven); Army and Navy (Washington, D.C.); Office: Office of Sci. and Technol. Policy, Extve. Office of The Pres., The White House, Washington, DC 20506.

Approved by (signature) Date [92B]

Approved as is ()

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Signature (order not valid without it)

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
02a. Letter	To: Allan Bromley From: David Shirley Re: Wife's condition [personal information redacted] (1 pp.)	12/11/91	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Personal Files
WHORM Cat.:
File Location: D. Allan Bromley - Personal [1 of 8] [1991]

Date Closed:	3/8/2010	OA/ID Number:	62028-001
FOIA/SYS Case #:	2005-0336-F	Appeal Case #:	
Re-review Case #:		Appeal Disposition:	
P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

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 the 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.

PRM. Removed as a personal record misfile.

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

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

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
02b. Letter	To: David Shirley From: Allan Bromley Re: Response to 12/11/91 letter [personal information redacted] (1 pp.)	12/18/91	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Personal Files
WHORM Cat.:
File Location: D. Allan Bromley - Personal [1 of 8] [1991]

Date Closed:	3/8/2010	OA/ID Number:	62028-001
FOIA/SYS Case #:	2005-0336-F	Appeal Case #:	
Re-review Case #:		Appeal Disposition:	
P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

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 the 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.

PRM. Removed as a personal record misfile.

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

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

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03a. Letter	To: Allan Bromley From: Christoph Winter Re: Immigration status [personal information redacted] (2 pp.)	12/3/91	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Personal Files
WHORM Cat.:
File Location: D. Allan Bromley - Personal [1 of 8] [1991]

Date Closed:	3/8/2010	OA/ID Number:	62028-001
FOIA/SYS Case #:	2005-0336-F	Appeal Case #:	
Re-review Case #:		Appeal Disposition:	
P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

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 the 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.

PRM. Removed as a personal record misfile.

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

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

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03b. Letter	To: Christoph Winter From: Allan Bromley Re: Response to 12/3/91 letter [personal information redacted] (2 pp.)	12/27/91	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Personal Files
WHORM Cat.:
File Location: D. Allan Bromley - Personal [1 of 8] [1991]

Date Closed:	3/8/2010	OA/ID Number:	62028-001
FOIA/SYS Case #:	2005-0336-F	Appeal Case #:	
Re-review Case #:		Appeal Disposition:	
P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

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 the 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.

PRM. Removed as a personal record misfile.

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(b)(1) National security classified information [(b)(1) of the FOIA]
(b)(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]
(b)(3) Release would violate a Federal statute [(b)(3) of the FOIA]
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(b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
(b)(9) Release would disclose geological or geophysical information

12 Faircrest Blvd.
RR #1 Kingston Ont.
K7L 4V1

DONALD J. NEIL

72 Faircrest Blvd.
Kingston, Ont. R1,
K7L 4V1

Dear Al:

I appreciated receiving your thoughtful note, but we were shocked to learn of Pat's death. That news had not reached us.

It must have been very difficult for you to bear, and that life for you without Pat continues to be bleak is understandable. She always seemed to be such a cheerful person who must have brought great joy to your life.

Although having drifted apart, as frequently happens to university classmates, we always felt a special affection for you and Pat, and in our way we will miss her very much. You and your family have our sincere sympathy.

Dorothy and I continue to keep ourselves busy in retirement doing various volunteer jobs in the community. I am still very much involved with health care, but the by-laws will soon be bringing my present roles to an end. I infer that you are still acting in an advisory role to the President, which must give you considerable satisfaction.

(over)

If you ever have the urge to travel to our area, or happen to be near Kingston, we would be very pleased to see you, and we have a spare bedroom!

Sincerely,

Don & Dorothy.

If you ever have the urge to travel
to our area, or happen to be near
Kingston, we would be very pleased
to see you, and we have a spare
bedroom!

Sincerely,

Don + Dorothy.

THE WHITE HOUSE
WASHINGTON

December 30, 1991

Dear Dorothy and Don:

Many thanks for your warm note of sympathy concerning Pat's death. As I am sure you can imagine, things will never be the same.

It was particularly unfortunate that Pat never had a chance to really participate in any of the Washington Swirl of activity. Particularly when we had had such ambitious plans both for Washington and for after it.

As you can see, I am still busy engaged here in Washington and am still trying to sell my house in New Haven, although I remain on leave from my endowed chair at Yale. It turns out that the Connecticut economy collapsed almost precisely at the same time that I moved to Washington and owning two homes in today's environment is not a particularly attractive operation. I did not rent the house in New Haven because, just before we decided that we were moving to Washington, we had had it worked over from basement to attic and the realtors kept assuring us that it would in fact sell in the near future and that renters would wreck what was a home in essentially perfect condition.

Somehow I find it difficult to think of either of you in retirement but I suspect that you are both, in fact, flunking retirement and from everything I have learned, keeping remarkably busy.

I expect to be in Kingston very briefly about the 28th of February to participate in a major celebration at Queen's and look forward to the possibility of our paths crossing at that time. Unfortunately, because of commitments just before and just after the scheduled event in Kingston, it will have to be a very short time at Queen's, but I do hope that we get a chance to compare notes, albeit briefly.

Let me take the occasion to wish both of you a very happy, healthy and rewarding 1992 and I hope that your Christmas has been a very merry one.

With warmest best wishes,

Sincerely yours,

A handwritten signature in black ink, appearing to read 'D. Allan Bromley', with a stylized flourish extending to the right.

D. Allan Bromley
The Assistant to the President
for
Science and Technology

Mr. and Mrs. Donald J. Neil
72 Faircrest Boulevard
RR #1
Kingston, Ontario
K7L 4V1 Canada

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9125004
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: GNUSE, John: YALE UNIVERSITY

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 11/25/91

SUBJECT: HE IS A FORMER STUDENT OF DR. BROMLEY'S AND IS
REQUESTING DR. BROMLEY'S ADVICE ON PURSUING A CAREER
IN SCIENCE POLICY.

DIRECTORATE STAFF
ASSIGNED: D. Allan Bromley ASSIGNED:

ACTION STAFF
REQUIRED: AS APPROPRIATE ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: 12/17/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

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John Gnuse
Box 1774 Yale Station
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Dr. D. Allan Bromley
Science Advisor of the President
Executive Office of the President
Office of Science and Technology Policy
Old Executive Office Building, Room 360
17th and Pennsylvania Avenue, NW
Washington, DC 20506

November 25, 1991

Dear Dr. Bromley,

I was a student of yours during your last semester at Yale. I took your course on Science and Public Policy the spring of my Freshman year. At that time I was unsure about whether I should continue studying science or instead concentrate on humanities. Your seminar convinced me that even if I do not commit my career to research, a strong academic background in science will inevitably be extremely valuable. Following that philosophy I have continued along the BS track in physics as part of a broad liberal arts education. I will be graduating in May with a degree in Physics and Philosophy. In addition to the standard physics curriculum I have had the opportunity to work on a number of research projects going on here at Yale. This past summer I worked with John Markey at the new Positron Emission Tomography Center sponsored by the Yale Medical School. I am currently working with Shiva Kumar on a Senior Project which concerns the possible structure of quark-gluon plasma which his group hopes to study with the proposed RHIC accelerator at Brookhaven. I am considering going on to graduate school because I continue to find the subjects extremely interesting and challenging, however I can not picture myself as a career physicist. As previously stated, I have been studying physics under the assumption that no matter what I eventually chose to do, a strong technical background will be extremely useful. My dilemma at this point is to determine what other kinds of work I might find as rewarding considering my background. I have considered,

for example, some of the financial fields that are looking for graduates with technical inclinations but I just don't seem to find that kind of work very appealing. I would prefer a field where I could continue to develop and utilize my technical skills.

Besides physics, another longtime interest of mine has been government. When I arrived at Yale, I expected that I would most likely study political philosophy and then get a job in Washington. I eventually decided that studying physics would be a more challenging learning experience, however, I am still considering working in Washington. I am looking for ways to somehow exploit my technical background within the beltway. I spent a summer working in Congress for a member of the Science, Space and Technology Committee researching technical issues concerning topics such as space policy and other aspect of scientific development. I have friends who have worked for the OTA and have found it an extremely rewarding experience. I find it conceivable that I would really enjoy this type of work. I recall that before you left you suggested to me that during my senior year I get in touch with you for advice if I continued to be anyway interested in working in science policy. Now that time has come, the idea of working in the government on issues concerning technical development continues to be very appealing. I am eager to hear what kinds of suggestions you may be able to offer.

Sincerely,

A handwritten signature in dark ink, appearing to read 'John Gnuse', written in a cursive style.

John Gnuse

THE WHITE HOUSE
WASHINGTON

December 19, 1991

Dear Mr. Gnuse:

I am responding to your letter of November 25 in which you tell me of your career planning dilemma.

Your decision to obtain a physics and a philosophy degree was, I think, a very wise one because it leaves open the greatest number of options for you. You have a number that you might wish to consider and I must tell you that for any of the activities that you mention in your letter, graduate work is almost essential. Your choices are to obtain a law degree, a business degree, or an advanced degree in science or technology. From a purely practical point of view, any one of those three would be of greater value to you were you interested in working in policy circles in Washington than would specific training in political science which I have not found to be notably helpful for the real world. If you chose the JD route, then you clearly have the possibility of both industrial and governmental activities open to you. Whereas the MBA route is more targeted toward the private sector. The advance degree in one of the physical sciences or in engineering is again a very general one that closes out few options and represents the kind of training that would be required for you to play a senior role in policy circles. If you choose an industrial career then the PhD is a very useful union card because without it, your opportunities will always be limited in technical areas. But if your focus is on management, then the MBA is more to the point because the independent research associated with the PhD will be of little or no use to you.

I would suggest that you seriously consider getting one of these graduate degrees and once you have accomplished that end, there are a number of specific fellowship programs, many of which are administered by the American Association for the Advancement of Science, that can provide you with an interface into government activities if you choose to follow that path. These fellowship programs are associated with the various professional societies but the AAAS provides an introductory period of several weeks wherein the new fellows, either Congressional, diplomatic, or Executive Branch get exposed to senior members of the Administration and of the Congress, and get an opportunity to decide what part of the Washington scene is of greatest interest to them.

With your Yale background I think that you will have no real difficulty in whatever area you choose. So let me then just wish you every success.

With all best wishes,

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. Allan Bromley". The signature is fluid and cursive, with a large, stylized initial "D".

D. Allan Bromley
The Assistant to the President
for
Science and Technology

Mr. John Gnuse
Box 1774 Yale Station
New Haven, Connecticut 06520

"Document Control"

TYPE: INFORMATION

DOCUMENT NUMBER: 9124977

ORIGINATOR: 02

STATUS C

DIRECTORATE STATUS

FROM: VIVA

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 11/15/91

SUBJECT: A POSTCARD REGARDING HER TRIP TO DENMARK.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION STAFF
REQUIRED: ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 12/03/91
FILE: P-DAB-PERSONAL

DEPT RECEIVED:

CENTRAL FILES:

Dear Dr. Bromley,

15. XI. 1991.

4977

Greetings from Copenhagen!
I'm just home here for the weekend
to meet my mom because she has
a lay-over here on her flight home
from Lithuania. Last year when my
dad returned from Lithuania via
Berlin, I also met him there. The wall
was still there then, so we could take
a pick-axe to it and do our share.
This is my mom's first visit back
in 47 years! Amazing. I still
cannot get over all the changes.
She went back to look for the farm
she grew up on and to look for
some relatives. It should be
a very interesting and emotional
debriefing when I see her. I also
can't wait for the big steak
she always feeds me! Take care, Viva

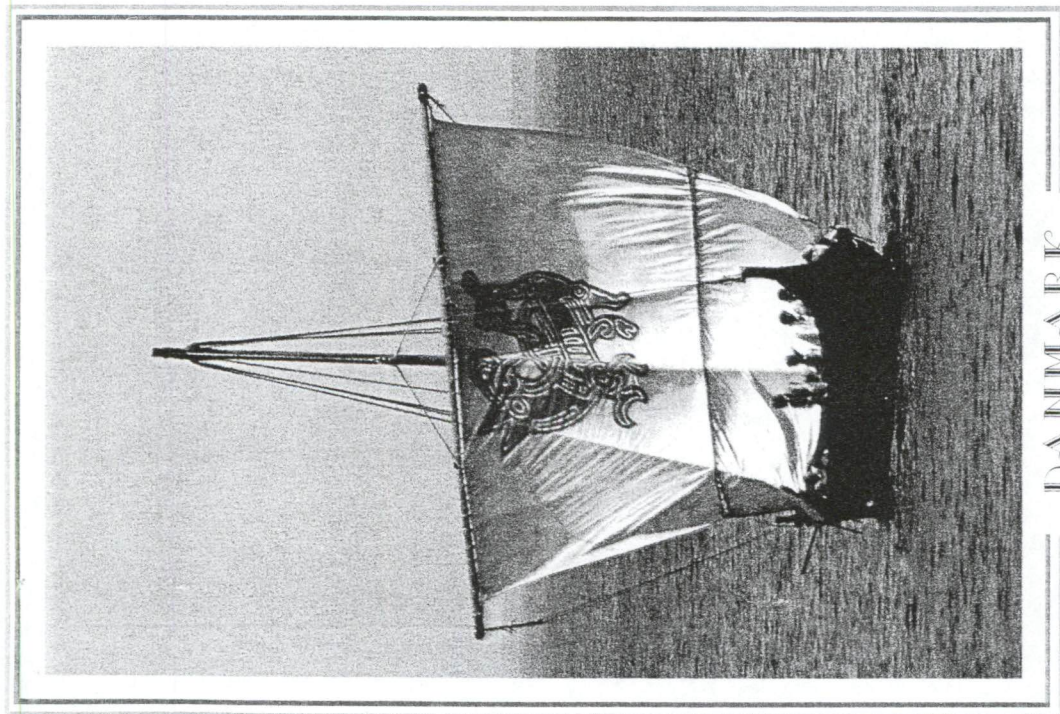


By air mail
Par avion

DR. D.A. BROMLEY
EXECUTIVE OFFICE OF
THE PRESIDENT-OSTP
OLD EXECUTIVE BUILDING
ROOM 360
17th + PENNSYLVANIA
WASHINGTON, D.C.
20506 USA

0000-2

Bush Library Photocopy



DANMARK

"Document Control"

TYPE: INFORMATION DOCUMENT NUMBER: 9124717
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS

FROM: MASSEY, Walter E.: NATONAL SCIENCE FOUNDATION

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 11/05/91

SUBJECT: A THANK YOU LETTER TO DR. BROMLEY FOR HIS ASSESSMENT
OF DR. ERB.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION STAFF
REQUIRED: ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 11/08/91 DEPT RECEIVED:
FILE: P-DAB-PERSONAL
CENTRAL FILES:

4717
NATIONAL SCIENCE FOUNDATION

WASHINGTON, D.C. 20550



OFFICE OF THE
DIRECTOR

RECEIVED

November 5, 1991

91 NOV 12 A10:12

OFFICE OF THE
DIRECTOR

Dr. D. Allan Bromley
The Assistant to the President
for Science and Technology
Office of Science and Technology Policy
OEOP, Room 360
Washington, D.C. 20500

Dear Allan:

Thank you for your letter providing an assessment of Dr. Karl Erb's performance at OSTP during the recently-concluded performance appraisal cycle. Karl has always been held in the highest esteem at the NSF. I am delighted that his assignment at the OSTP has provided him with an opportunity to further demonstrate his effectiveness in dealing with key national science policy issues.

Thank you, also, for your recommendation that we consider a pay adjustment to the top of the SES ranks for Karl in view of the level and nature of his responsibilities at the White House. Since Karl received his current SES pay rate in May 1991, he will be eligible for a pay rate increase in May 1992. Although SES compensation regulations preclude us from addressing his salary level before that time, we will certainly take the information and recommendation which you have provided into consideration next May.

Again, I sincerely appreciate the time you have taken to advise me of Karl's accomplishments at the White House. It is a pleasure to know that his presence there has contributed significantly to the mutual interest of both the OSTP and the NSF.

Sincerely,

Walter E. Massey
Walter E. Massey
Director

"Document Control"

TYPE: action DOCUMENT NUMBER: 9203364
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: Hittinger, William: Lehigh University

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 11/01/91

SUBJECT: Lehigh University's Annual Giving--He is asking that
you join him and the Board of Trustees in making a
gift for young people

DIRECTORATE STAFF
ASSIGNED: D. Allan Bromley ASSIGNED:

ACTION STAFF
REQUIRED: as appropriate ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: 11/21/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO:

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 11/07/91 DEPT RECEIVED:
FILE: P-DAB-PERSONAL
CENTRAL FILES:



Lehigh University



Board of Trustees

*Alumni Memorial Building 27
Bethlehem, Pennsylvania 18015
telephone (215) 758-3120*

November 1991

Dr. D. Allan Bromley
Executive Office of the President
Office of Science and Technical Policy
Old Executive Office Building, Room 360
Washington, DC 20506

Dear Allan:

As we approach the end of the year and the holiday season, I would like to ask you to consider a gift to Lehigh University -- a gift to Lehigh Annual Giving for the education of our young people.

Last year our Board of Trustees made a significant decision affecting the life and vitality of the University. It was aimed at addressing the serious challenge we, and other private schools, face in attracting both the quality and the number of students our faculty and facilities are dedicated to serve. It set a policy by which Lehigh guarantees to meet the financial need of all students (not just some, as in the past) who are admitted either through early or regular admission and who are U.S. citizens or permanent residents. Results of this decision have been outstandingly positive: applications for admission increased 10% as our newly competitive financial aid policy allowed more students to consider Lehigh.

Current gifts provide the critical bridge necessary for the University to sustain this financial aid policy as we move toward raising the funds necessary to permanently endow this new level of funding. Enrollment of quality students is a serious challenge. In the decade of the 1990's there will be a smaller available pool of qualified students. Competition for the best in this shrinking pool is fierce. Public schools are an increasingly attractive alternative for families faced with the higher annual price required by private institutions like Lehigh.

Your gift will help ensure that Lehigh continues to attract the quality and the number of students we need. I ask you to join me and the Board of Trustees in making a gift to Lehigh.

On behalf of the Board, thank you for helping our University.

Sincerely,

William C. Hittinger

William C. Hittinger
Chairman

P.S. A pledge card and return envelope are enclosed for your convenience.

THE WHITE HOUSE

WASHINGTON

December 18, 1991

Dear Bill:

Many thanks for your letter requesting support of the Lehigh Annual Giving program.

While I am honored and delighted to have become a member of the Lehigh family, I must tell you that the transition from the private sector at Yale to government service, together with the fact that I now have two homes despite my stalwart efforts over the last two and a half years to sell the one in New Haven, means that I am running a consistently negative cash flow and so during my time in my present office my contributions are going to be, I am afraid, very much restricted.

This year in particular the Whitney Library of the New Haven Colony Historical Society is establishing a new archival wing in honor of Pat who served as senior archivist for the Society for many years before we came to Washington, and I am providing what support I can for that activity in her memory.

That being the case, I am afraid that this year I am unable to respond to your request but hope that in the future I will be in a position to do better.

Let me take this occasion to wish you and Betty the happiest of Christmases' and a very healthy and rewarding 1992.

With warmest regards,

Sincerely yours,



D. Allan Bromley
The Assistant to the President
for
Science and Technology

Mr. William C. Hittinger
Chairman, Board of Trustees
Lehigh University
Alumni Memorial Building 27
Bethlehem, Pennsylvania 18015

"Document Control"

TYPE: INFORMATION DOCUMENT NUMBER: 9124623
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS

FROM: KLEPPNER, Daniel: MIT

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 10/26/91

SUBJECT: HE IS PROVIDING DR. BROMLEY WITH AN ARTICLE WHICH IS
SCHEDULED FOR PUBLICATION IN PHYSICS TODAY.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION STAFF
REQUIRED: ACTION:

SENDER'S DUE DATE: STAFF DUE DATE
OSTP DUE DATE: DATE COMPLETED/DEPT:
DATE COMPLETED:

COPIES TO: D. Allan Bromley
PHYSICAL SCIENCES
Steve Olson

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 11/01/91 DEPT RECEIVED:
FILE: P-DAB-PERSONAL
CENTRAL FILES:

THE WHITE HOUSE

R. L. Lippman

Nov. 4, 1991

Dear Dan:

Many thanks for your kind note
and the copy of your really excellent
piece for *Physician Today*. There is a
Chinese proverb, "Prophecy is a
difficult art, particularly when
applied to the future."

You might be amused to see my
last efforts in this area in the
Nov-Dec. 1988 issue of *American
Scientist*.

Warmest regards

Sincerely

Allan

4623

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF PHYSICS

DANIEL KLEPPNER
Lester Wolfe Professor of Physics

91 NOV 1 53
address: MIT
room 26-237
Cambridge, MA 02139

phone: 617/253-6811
fax: 617/253-4876
dk@kleppner.mit.edu

OFFICE OF THE
DIRECTOR

October 26, 1991

Dr. D. Allan Bromley
Assistant to the President for Science & Technology
The White House
1600 Pennsylvania Avenue
Washington, DC 20500

Dear Allan,

You may be interested in the little essay enclosed that is scheduled for publication in *Physics Today's Reference Frame* column. My reason for thinking so is that it is upbeat, whereas most of the pieces that people send you— myself included— must be tales of woe. Also, the work is vaguely connected with you for two somewhat oddball reasons. First, it cites the Bromley report in what might be construed as a critical fashion, though, as you will see, the subject of criticism is not you. Second, it is based on a speech that I gave at the Swedish Academy. They explained that they had invited you, but that you could not come. They were attempting to flatter me. It worked.

Sincerely,



(for Physics Today, Reference Frame)

A School for Humility

If you should suddenly feel the need for a lesson in humility, try forecasting the future of physics. I acquired this little bit of wisdom rather painfully a few years ago when fate tossed me onto the Brinkman Committee— one of those panels that is assembled in the U.S. roughly once a decade to survey physics. To prepare for the task, I looked into the previous survey to see how well it had done in my pet field of atomic physics. The performance was unimpressive. Apparently nobody noticed that the laser was about to revolutionize atomic physics and propel optics into the mainstream of physical science. Single particle traps, clusters, high resolution scattering, and lots of other advances were also missed. My gorge rising against the clods who did my field such an injustice, I looked up the list of members of the atomic physics panel. Smack in the middle of the list was my own name.

When you get down to it, about the only thing scientists can forecast with much accuracy is an eclipse. Understanding this, veteran science forecasters invariably qualify their discussion with some cautionary statement to the effect that because the most exciting discoveries are unpredictable, their predictions cannot begin to do justice to the glorious potential of their particular field. Such a disclaimer allows one to exaggerate yet at the same time reveal a becoming humility. Nevertheless, scientific discoveries generally do exceed expectations. By way of evidence for this, note that although it is hardly more than five years since the last physics survey— the Brinkman report— there is already an impressive list of advances that we either underestimated or simply failed to see. One can view this as evidence that physicists are shortsighted or that nature is inexhaustible. Naturally, I vote for the latter. To support my point, here is a list of some things that we missed.

High T_c superconductivity. The topic is too well known to need description. Suffice it to say that the discovery hit physics like a tsunami. Finding the explanation has turned out to be a tougher task than imagined.

Supernova 1987a. Since supernovae light up in the Milky Way approximately once every three hundred years, the occurrence in 1987 can be described as astounding but not miraculous. However, detection of fifteen of the roughly 10^{57} neutrinos that were

ejected as the star's core collapsed, traveled for 170,000 years and arrived within a few seconds of each other, approaches a miracle— a symbiotic windfall from the search for proton decay in Japan and the U.S. The agreement between the neutrino signals and the theory for the supernova's explosive collapse is a triumph of neutrino physics. The supernova now glows with light powered from the radioactive decay of cobalt 57, though in its few short years its luminosity has dropped dramatically. The measurements are in extraordinary agreement with the theoretical scenario and this story is heading straight for the textbooks.

Atom cooling and light optics. It is hardly news that light can push around atoms, but nobody seemed to recognize that the interplay of optical fields with the internal dynamics of an atom would make it possible to cool atoms to temperatures of a few microKelvin, to suspend them in space, toss them around like tennis balls, or let them collide in a new world of ultra slow motion. A fountain of such cold atoms has already produced a resonance signal fifty times sharper than in the best atomic clock. Out of this line of research has grown the discipline of atom optics, loosely centered around the interaction of atomic waves with mechanical structures or optical fields, or both. Mirrors made of light have reflected beams of atoms, and a new art of interferometry has been created based on coherent beams of atoms.

Buckyballs. The Brinkman report paid suitable homage to clusters— those small chunks of matter somewhere between individual atoms and solid structures that can be generated in supersonic beams— but the anomalous peak in the carbon spectrum at mass 60 had yet to be discovered. Observation of C_{60} and identification of its soccer ball structure - the "Buckyball"- led to a rumble of excitement, and when it was discovered that the material could be made in bulk, the rumble turned into a roar. Chemistry has a new building block and the excitement is reminiscent of the excitement that followed the discovery of high temperature superconductivity. C_{60} is only one member of a novel class of molecules called the fullerenes. The opportunities for both chemistry and materials science are, for now, beyond comprehension.

Complexity, chaos, and nonlinear dynamics. Given that the search for simplicity is generally esteemed by physicists, it is remarkable that the study of complexity has moved to center stage, but such are the ironies of nature. Complexity encompasses everything from the growth of crystals to the dynamics of neural systems. Its central theme— the elaboration of forms from the repetition of simple operations— is being recognized as a

fundamental organizing principle of nature. Several commentators have used this column to spread the good tidings of complexity (August, 91; July, 91; March, 91), though the term was not even mentioned in the last physics survey. Nonlinear dynamics has also moved to center stage. Its origins go back to Poincaré's work at the turn of the century; the origins of chaos likewise go back for several decades. Only in the past few years, however, have nonlinear dynamics and chaos theory entered the mainstream of physics. The last physics survey hardly noticed that classical mechanics was on the threshold of a renaissance.

Superdeformed nuclei. Although their existence was anticipated by theory, until they were discovered experimentally it did not seem likely that nuclei really could be stable in sausage-like geometries while spinning so fast that they are on the verge of flying apart. However, when calcium-48 and palladium-108 ions collide they can fuse to form a dysprosium nucleus that boils off a few neutrons and settles down into such a state of ^{152}Dy . The ratio of major-to-minor axes is approximately 2:1 and the angular momentum is extraordinary—approximately $60\hbar$. The ^{152}Dy methodically emits a series of gamma rays, producing a spectrum so regular that it is almost picket-fence. When the angular momentum is about $26\hbar$, the ^{152}Dy suddenly flips its shape and behaves like a conventional nucleus. Similar behavior has now been discovered in many other nuclei, so that the phenomenon is by no means isolated. On the contrary, superdeformed nuclei are now recognized as a new state of nuclei, an unexpected happy event in the nuclear family.

Large scale structure of the universe. The uniformity of the early universe has been one of the more comforting thoughts of modern cosmology. Measurements by the Cosmic Background Explorer (COBE), for instance, gave spectacular confirmation of the blackbody spectrum and isotropy of the cosmic microwave radiation. Aside from a small correction due to local motion, the radiation was uniform across the sky to better than one part in 10^4 . In view of this uniformity, the recent discovery of large scale structures of the universe—voids in the distributions of galaxies, sheets of galaxies, and large foam-like structures—was totally unexpected. Possibly the structures bear the signature of dark matter, or possibly the present scenario for the evolution of fluctuations in the early stages of the universe is completely wrong. In any case, our view of the universe has altered in the last few years.

Mesoscopic physics. A new world of physics has been discovered in mesoscopic systems, structures that are large on the atomic scale but so small on the laboratory scale that quantum effects are important. When the distance needed for an electron to exchange energy becomes large compared to the size of the system, electron transport turns into a coherent process and the transmission coefficient that determines the conductance is determined by a sum of Feynman paths over all the random paths through the system. In this regime, any change in phase leads to a macroscopic change in conductance. If some parameter such as the magnetic field is changed, the conductance fluctuates by a universal value, $\sim e^2/h$, irrespective of its value. Such universal conductance fluctuations can generate $1/f$ electronic noise due to the migration of one atom. In the mesoscopic world, the charge of a single electron can alter the potential of an electrode enough to cause macroscopic changes in behavior. Out of this simple idea have already emerged a single electron "transistor" and other single electron circuit elements.

This hardly exhausts the list of surprises from physics in the last five years but it should at least suggest Nature's abundance. The lesson is that scientific discoveries invariably exceed the power of our imagination. Learning this over and over again should school us in humility, though it is more likely to leave us feeling exhilarated rather than humble. In either case, the lesson can help us to keep up our spirits in these times of deferred hopes and faltering institutions.

I thank my numerous colleagues who helped me to prepare this by sharing their wisdom and their excitement over these advances and discoveries.

Daniel Kleppner
Department of Physics
M.I.T.

"Document Control"

TYPE: INFORMATION DOCUMENT NUMBER: 9124583
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS

FROM: BAHCALL, John N.

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 10/25/91

SUBJECT: HE IS PROVIDING DR. BROMLEY A COPY OF AN ARTICLE HE
AUTHORED REGARDING PRIORITIZING SCIENTIFIC
INITIATIVES, THANKING DR. BROMLEY FOR HIS GUIDANCE
AND SUPPORT.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION STAFF
REQUIRED: ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 10/29/91 DEPT RECEIVED:
FILE: P-DAB-PERSONAL
CENTRAL FILES:

Reprint Series
22 March 1991, Volume 251, pp. 1412-1413

SCIENCE

*To Allum:
With gratitude
for your guidance
and support.
jnl*

Prioritizing Scientific Initiatives

JOHN N. BAHCALL

Prioritizing Scientific Initiatives

JOHN N. BAHCALL

WHAT ARE THE MOST IMPORTANT ASPECTS OF THE UNIVERSE to explore? What are the best ways to make discoveries in astronomy and astrophysics? These are tough questions because researchers have many different approaches and it is usually not clear, until the most interesting problems are solved, which method will yield the most important results. Individual astronomers present strong arguments for many potential approaches that require federal funding.

We are well into an era of limited research budgets, however, and choices have to be made. Astronomers have recognized that if they do not set their own priorities, then funding agencies and congressional officials will do it for them. Moreover, the process of convincing colleagues in different specialties improves the proposals and provides a broader outlook for the community of researchers.

Astronomers have recently provided some answers to the hard questions of what to fund and, by implication, what to cut. Working under the auspices of the National Research Council, the astronomers have recommended funding for a limited number of initiatives, ranked in order of priority. Only one out of every ten highly promising initiatives survived this rigorous selection.

In this article, I will describe, from my perspective as chairman of the committee, how we came to a consensus on these priorities. I hope that an understanding of our experience may provide further support for the results of our study, as well as offer a possible mechanism for others who must make difficult choices at a time when discretionary budgets are limited.

The group charged with setting priorities, the Astronomy and Astrophysics Survey Committee for the 1990s, was established by the National Research Council (NRC) in May 1989, following my appointment as chair in February 1989. The report of the committee, *The Decade of Discovery in Astronomy and Astrophysics*, was published in March 1991 by the National Academy Press.

The first step was to find an outstanding group of scientists who were willing to sacrifice a significant part of their research time in order to serve on the committee. I spent most of the months between February and May of 1989 talking to hundreds of astronomers about potential members who might serve on the advisory panels of the survey and on the executive committee (hereafter, the survey committee). I also wrote to the chair of every astronomy department in the United States, as well as to many other prominent astronomers, requesting nominations. I invited each person to suggest themes and questions for the study. In addition, I wrote to a number of distinguished astronomers abroad asking about astronomical programs in their countries and requesting advice about possible international collaborations.

The 15 members of the survey committee were nominated by the appropriate committees of the National Research Council and were appointed by Frank Press, the president of the National Research Council. The survey committee contained six members of the National Academy of Science, two Nobel Prize winners, and two directors of national observatories. The committee selected the chairs of 15 advisory panels for different subdisciplines, based on discussions with astronomers of different specialties at institutions

throughout the country. The panel chairs and the survey committee selected 300 people for the advisory groups who had a high level of scientific achievement and who also represented different research approaches, different kinds of institutions, and different geographical areas.

Each panel met at different sites in the United States in order to help stimulate wide participation by the astronomical community. I also wrote to each of the panel members asking them to solicit the views of colleagues at their home institutions. The survey committee itself considered projects that spanned more than one subfield or which fell between the assigned responsibilities of the panels.

Prior to the formation of the survey committee, Frank Press and I visited major agency heads and congressional and administration leaders in order to obtain their advice on what issues the report should address and in what form the results should be presented. I did not ask for support of any projects, but I did hope to create a favorable climate for future consideration of astronomy initiatives. I also did not ask what answers would be politically most desirable. Participants in the survey were encouraged to solicit facts from agency and administration authorities, but we evaluated ideas and initiatives independently and in confidence. Agency leaders, congressional staffers, senior people at the Office of Management and Budget, and the President's science advisor (who had gone through a similar experience as chair of a previous NRC decade survey for physics) all provided valuable advice.

The consultations in Washington resulted in several important sections of the final report: a chapter on the lunar initiative, a chapter on high speed computing, an emphasis on priorities for technology in this decade that will lead to science in the next decade, recommendations of what astronomers should do pro bono to help with the crisis in education, a chapter on astronomy as a national asset, an examination of the technical heritage of proposed initiatives, realistic estimates of the costs for each of the new projects, an examination of the role of American astronomy in the international context, some guidelines for assessing when international collaborations would be fruitful, and thumb-nail sketches of major projects that could be used conveniently by those drafting legislation.

We felt it was essential to involve the community as much as possible: Every astronomer who had something to say had an opportunity to be heard. Open discussions were held in conjunction with meetings of the American Astronomical Society (AAS) and at several other professional meetings. In January 1990, at the Washington, DC, meeting of the AAS, nearly 1000 astronomers participated in open sessions that involved all 15 of the panels. The names of the survey committee members and of the chairs of the panels were published in the newsletter, along with remarks encouraging individual astronomers to present their ideas directly to survey committee members, panel chairs, or panel members.

The most intense discussions in the first nine months of the survey occurred within the panels. In order to ensure good communication between the panels and the survey committee, each member of the survey committee served as the vice-chair of one of the panels. This arrangement worked well, keeping the survey committee apprised of ideas as they developed and enabling each panel to understand the goals and procedures of the full survey.

The survey committee avoided many potential problems by deciding that the panel reports would be advisory rather than part of the findings of the survey and that the reports would not be refereed by either the survey committee or by the NRC. The recommendations of the panels were not binding on the survey committee, but the panel reports contain important technical information, as well as detailed arguments advocating specific initiatives. The reports of the panels were published separately from, but simultaneously with, the full survey report by the National Academy Press under the title

Working Papers: Astronomy and Astrophysics Panel Reports.

Establishing the recommendations of the survey took 14 months, about a year less than was projected. The survey committee had six meetings at astronomical centers throughout the country.

I was surprised by one thing. Veterans of similar activities assured me that there would be a difficult and tense period of bargaining before we agreed on the final recommendations. This never happened. I am not certain why. One possible reason is that the committee judged the initiatives on the basis of scientific potential, not political considerations.

The list of priorities was established by a gradual process that was much easier than any of the survey committee members anticipated. The committee voted on straw ballots on three occasions, using as background material the preliminary reports of the advisory panels. The straw ballots focused the discussion on projects that were most likely to be considered important in the final deliberations. As a preliminary to the final ballot, the committee heard advocacy presentations from the panel chairs. The chairs also participated in discussions of the relative merits of all the initiatives, although the final recommendations were formulated by the survey committee in executive session.

Two strategic decisions helped the committee reach a consensus quickly and smoothly. First, the committee decided that if we failed to reach agreement in July 1990 at the pleasant facilities of the National Academy, within reach of the cool breezes from the beach of Irvine, California, then we would meet a month later in the least desirable place in the middle of summer that we could think of, namely, Washington, DC.

Second, several committee members proposed that I draw up, on the evening before the final voting, a draft list of recommended initiatives in order of priority. They suggested that the committee alter by consensus the draft set of recommendations in order to arrive at the final list of priorities. The proposers hoped that, by this process, the committee could avoid having "winners or losers." I was skeptical of the chances for success when the idea was proposed, but I agreed to try.

Having drawn up a handwritten list of priorities on the night

Table 1. Recommended equipment initiatives (combined ground and space) and estimated costs.

Initiative	Decade Cost (\$M)
<i>Large Programs</i>	
Space Infrared Telescope Facility (SIRTF)	1,300
Infrared-optimized 8-m telescope	80
Millimeter Array (MMA)	115
Southern 8-m telescope	55
Subtotal for large programs	1,550
<i>Moderate Programs</i>	
Adaptive optics	35
Dedicated spacecraft for FUSE	70
Stratospheric Observatory for Far-Infrared Astronomy (SOFIA)	230
Delta-class Explorer acceleration	400
Optical and infrared interferometers	45
Several shared 4-m telescopes	30
Astrometric Interferometry Mission (AIM)	250
Cosmic-ray telescope (Fly's Eye)	15
Large Earth-based Solar Telescope (LEST)	15
VLA extension	32
International collaborations on space instruments	100
Subtotal for moderate programs	1,222
Subtotal for small programs ^a	251
Decade Total	3,023

before our formal voting, I was surprised the next day at how rapidly we reached a consensus. We began with those equipment categories concerning which we were most in agreement and then worked our way to the more difficult choices. We went around the table, everyone stating their views about what change, if any, needed to be made in the ordered list that we were considering. By the time we had all spoken, the consensus was obvious and we adopted unanimously our priorities in each category.

In preliminary discussions, most agency personnel opposed absolute rankings that combined ground and space initiatives, worrying that their top priorities might be adversely affected by ineffectiveness at some other agency. The survey committee provided both separate and combined rankings of ground and space initiatives, believing that good citizenship required us to use our expertise to provide the maximum possible guidance.

In times of budgetary crisis, good citizenship also requires fiscal restraint. The survey committee studied approximately ten times as many initiatives as were endorsed, recommending that funding agencies invest in astronomical initiatives according to the scientific priorities established in the survey report.

The committee assigned its highest priority for ground-based astronomy to the revitalization of the infrastructure for research, both equipment and people. Continuing to develop a space program with an improved balance between large and small projects, with emphasis on quicker and more efficient missions, was the committee's highest priority for space research.

The committee recommended that an increased emphasis be given in the astronomy research budget to small and moderate programs (see Table 1). The committee did not prioritize small programs, recognizing that the agencies could use peer review for small initiatives to respond quickly to new scientific or technological developments.

The 180 page book presenting the recommendations was written in about three months. National Research Council reports are reviewed carefully. They must meet high standards of logic, of evidence, and of objectivity. In our case, the National Research Council selected 18 formal referees, in addition to a report review committee. The reviewers were anonymous National Academy members and other qualified scientists, in physics, in astronomy, and in other related disciplines. The formal review process was painful, but I answered each review comment, even rhetorical questions, with a specific written response in order that we could complete the review quickly. The 18 referees helped to sharpen our arguments and to clarify our logic, but did not suggest revisions of our priorities.

This is the fourth in a series of decade surveys by astronomers, led by A. Whitford, J. Greenstein, and G. Field, respectively. The highest priority initiatives in each survey were successfully undertaken, encouraging astronomers to submerge parochial interests and focus on the most important initiatives.

Would another committee of astronomical experts have recommended a similar set of priorities? I think so, provided that they had also spent a year learning about and comparing all the proposed initiatives in this country and abroad.

These are the things that worked for us: enlisting as committee members active research scientists eager to finish the job and get back to their own work; recruiting an effective executive secretary; insisting on adequate budgeting and staff support; having a logical plan and a specific timetable for completing the report; listening to everyone who wanted to be heard; concentrating on issues within the committee's competence, in our case, scientific priorities; having a talented editor who could sharpen the final report; and working with a community that believes it is better for astronomers to make imperfect judgments about priorities for astronomy than it is to leave the decisions to Washington administrators.

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