THE WHITE HOUSE

WASHINGTON

December 10, 1992

Dear Walter:

I am forwarding herewith a preliminary report on a study carried out by an OSTP consultant, Mr. Willis Shapley, now retired after extensive experience at OMB/BOB and AAAS.

I asked Mr. Shapley, as in the past two years, to examine the FY 1993 appropriations in order to obtain a measure of the amount and kind of earmarks as well as how these have changed in recent years.

It bears emphasis that this report is still in a preliminary state and that reasonable persons might well differ over definitions and identification of specific earmarks. However, the same criteria have been used for all three years during which Mr. Shapley has carried out this analysis so that the trends are clear and credible.

As the table on page 2 of the summary shows, while academic earmarks have remained reasonably stable, nonacademic ones have increased rapidly so that there has been a dramatic increase in the total resources earmarked.

I am sending you this preliminary report because I thought that you would find the results both interesting and distressing.

Sincerely yours,

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

The Honorable Walter Massey
National Science Foundation
1800 G Street, Northwest
Washington, D.C. 20550

THE WHITE HOUSE

WASHINGTON

November 3, 1992

Walter

Dear Dr. Massey:

I am delighted that you have agreed to discuss the deliberations of the NSB Commission on the Future of the NSF at the next meeting of the President's Council of Advisors on Science and Technology (PCAST) on Thursday, November 12, 1992. The Council would also be quite interested in learning more about your personal visions for the future directions of the agency.

This meeting will be closed to the public and will be held in Room 472 of the Old Executive Office Building. We have scheduled you to speak from approximately 1:15 - 2:15 PM. I have enclosed a draft agenda for your convenience.

If you should have any questions about the meeting, please feel free to contact Dr. Alicia Dustira, Executive Secretary for PCAST, at (202) 395-4692.

The PCAST and I look forward to seeing you on November 12.

Sincerely yours,

Allan

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

Enclosure

Dr. Walter E. Massey
Director
National Science Foundation
1800 G Street, NW
Washington, DC 20550

THE WHITE HOUSE

WASHINGTON

October 29, 1992

Dear Walter,

The FY 1993 congressional appropriation for research activities supported by the National Science Foundation is a severe, but I hope temporary, setback for the Administration's goal of doubling the NSF budget. We made real progress toward achieving our goal during the previous years of the Bush Administration, and I intend to do my utmost to ensure that our FY 1994 request reflects our common commitment to this goal.

Meanwhile, you have the difficult task of adjusting the overall NSF program for FY 1993 to the very low levels that the congressional action will support. I recognize fully that there is no way to accomplish this without doing real damage to many programs, but I consider it essential that we maintain the vitality of the core disciplinary research activity upon which all else is based and from which NSF draws its fundamental support. Without these, the important new initiatives which we have worked so hard to foster will founder.

I suggest that we meet next week to discuss FY 1993 in more detail. It would be particularly useful to have staff present who can discuss the critical issue of balance in terms of the programs they administer. After our discussions it is likely that conversations with appropriate congressional leaders would also be in order.

Sincerely yours,

Allan

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

The Honorable Walter E. Massey
Director
National Science Foundation
Washington, D.C. 20550

THE WHITE HOUSE

WASHINGTON

April 14, 1992

MEMORANDUM FOR SAM SKINNER

FROM: D. ALLAN BROMLEY Allan

SUBJECT: THE QUESTION OF MOVING THE NATIONAL SCIENCE FOUNDATION

I believe that Walter Massey has already briefed you fully on the extended arguments that have been involved concerning this question and I think that you have copies of a letter from Senator Warner, as well as from Frank Wolfe, resulting from a comment made by Walter during his hearing before the Traxler Appropriations Subcommittee.

Well before Walter took on the Directorship at NSF, I was drawn into the debate because shortly before he left office, Erich Bloch had been a strong supporter of the move to Ballston in Virginia. At that time, Senator Barbara Mikulski, in one of our discussions, pointed out to me that she was opposed to that move but had a site in Maryland if, in fact, NSF was considering a move in the first place.

I discussed the matter with Fred Bernthal, who was then Acting Director, and found that he agreed with me that it would be very inconvenient for both NSF and all the rest of us who interact on frequently a daily a basis with NSF were it to move out of the District. I then discussed the matter with John Sununu who agreed and called the GSA to halt any negotiations directed toward the move. Subsequently, GSA reported to Sununu that they had concluded arrangements for the move days, if not indeed hours, prior to his call and could do nothing to change the situation. John tried again but found that, in fact, the GSA statement held and that there was nothing really that he could do.

I remain completely convinced that the move is a mistake from the point of view of the NSF and the service it provides not only to the rest of the Federal Government but to the scientific community. I have talked with Senator Mikulski who has indicated that she does not wish to re-enter the fray with Senator Warner and so will not object to the move but, I suspect that she will make it very difficult for NSF to get the necessary funding and it may well be that some of the expenses associated with the move will come from what would otherwise be research budgets.

I believe that there may be a better alternative to the Ballston move if we follow up on the decision, already made, to move EPA into the former trade center on Pennsylvania Avenue. It is my understanding that there is space in this center for NSF in addition to EPA and both agencies would benefit from this arrangement.

As I believe Walter discussed with you, putting both EPA and NSF into what will then be a more visible research-related building may lessen Mayor Kelly and Eleanor Holmes Norton's unhappiness about losing their cherished trade center idea.

I assume that the people who would have to be convinced to make such a move possible would be Dick Darman and Richard Austin at GSA. Senator Mikulski would not object were the NSF move to other, more adequate, quarters in the District.

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OPENING STATEMENT

Mr. TRAXLER. Well, now that we have said all these nice things, let us take your statement. You may present it in any fashion you choose, and we will put it in the record in its entirety.

Dr. MASSEY. Thank you, Mr. Chairman, and I have a longer statement, so I will be brief and just say a few words.

But before I get into my statement, I would like to introduce to everyone, as I have to you, Dr. James Powell, who is the former President of Reed College and currently the Chief Executive Officer for the Franklin Institute, and a member of the National Science Board. He is here today to make a statement.

Dr. Jim Duderstat, who is the new Chairman of the Board and President of the University of Michigan, had a previous commitment out of the country before he was elected chairman and couldn't change that.

So, with your permission, I would like to ask Dr. Powell to make a statement.

Mr. TRAXLER. We would be pleased to take his statement at this time.

Dr. POWELL. Thank you very much, Mr. Chairman.

It is a pleasure to be here today to represent the National Science Board before your subcommittee and substitute for your good friend, Jim Duderstat. I will try to be brief and then hope to follow up any concerns you have via questions, but I do think it important to provide you and your colleagues with a sense of the importance of this budget from the perspective of someone like myself who has been involved with science policy as a scientist, an educator, an academic administrator and college president, and now, as Director Massey has indicated, the president of a major science museum and thereby somebody working in the K through 12 sector in the science literacy sector of this endeavor.

I wanted to underscore something that you modestly pointed out about yourself, and that is that this committee has been instrumental in protecting and enhancing financial support for higher education and K through 12 education in the country in a time of great financial constraint when there are many, many demands on the budget. I want you to know people on the Science Board are well aware, as Dr. Massey said, as a former Science Board member, of this fact, and that if it were not for you, and Mr. Brown, and a few others, that chart might look very, very different, and I think it would be greatly to the detriment of the country.

This request that is before you for the budget, I think, is quite consistent with the importance that science education and research should have in the country. It reflects the position of Dr. Massey and the Science Board that attention must be given to strengthening the basic research and education missions of NSF, while seeking to build stronger bridges to constituencies outside the normal academic channels.

One of the ways we are doing that is through the FCCSET initiatives, but we also are reaching out through the Statewide Systemic Initiative, which is going to challenge the conventional wisdom on education in many ways.

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SCIENTIFIC INITIATIVES

Among the initiatives will be the emphasis on biotechnology and the advanced manufacturing processes initiative to build on very strong existing programs at the Foundation. The board thinks they are very appropriate and very important short and long-term national concerns.

Let me mention two pieces of information that caught my eye that I think particularly reinforce the need for NSF strategy. One has to do with the number of Nobel prizes won since the turn of the century. The United States has won over 400 Nobel prizes in chemistry, physics, physiology, and medicine. Japan has won four. But a recent government assessment of world leadership in twelve emerging technologies ranks the U.S. first in six: Artificial intelligence, biotechnology, high performance computing, medical devices, computer-integrated manufacturing, and sensor technology.

Japan is regarded ahead in five: Advanced materials, semiconductors, digital imaging, data storage, and optoelectronics. So if you think about that you get a sense that history is shifting and that we are going to be challenged to maintain our leadership position in every emerging technology in which we now lead.

And just this morning you may have seen the article in *The New York Times* about the possibility that the estimates that the Foundation has made for—you have it in your hand, Mr. Green—for R&D might be a little low and the Japanese might have already moved beyond us in total R&D spending; not as a percentage, but as an absolute matter.

INSUFFICIENT FUNDS FOR STAFF AND EXPENSES

I want to specifically point to one area, if there is one concern I could single out from all the others that the Science Board has, and I notice this is a concern of the director as well. The Science Board, and I know members of this committee, and indeed the Congress, are proud of American science and we recognize that if it were not for the 40-year history of the National Science Foundation, American science today would be just a pale shadow of what it is. I don't know of any finer agency in this city, or indeed in the world.

NSF and its partner, the research universities, and the colleges, are the envy of the world, and in my mind one of the clearest remaining examples that we still are a can-do society.

But I want to tell you, Mr. Chairman, that in my opinion, and I think I speak for many members of the board here, the ability of the Foundation to maintain itself as the premiere science agency in the world is threatened. It is not threatened by insufficient overall funding. As you pointed out, and as we have seen, overall funding for the Foundation has advanced in good order. Rather, I think the threat comes because as the overall funding has gone up, the money available in the Foundation budget for staff and expenses, the money you need to operate these programs, has gone up barely at all.

I can observe, even in my brief visits to the Foundation, that the staff is extremely talented but that they are increasingly overworked.

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We could look at another chart—I don't suppose we have this; it is in the budget book—that shows that over the last 10 years the budget of the Foundation, you have pointed this out really in a way, has tripled. The number of proposals received in the last 10 years has almost tripled, but the curve for the staff has been almost exactly flat. That seems to me a formula for turning excellence into something less. I think in normal times one could argue funds to operate programs should increase at about the same rate as funding overall. You might have some efficiencies so that programs wouldn't have to go up at exactly the same rate.

But what NSF is doing today represents a more complex set of activities. When the Foundation awards a research grant to a scientist in Ann Arbor or Lansing, the Foundation doesn't need to provide much in the way of monitoring. It can wait confidently and know three years later some good work will be done. When, however, the Foundation opens an engineering research center or when it participates in one of the complex FCCSET initiatives, both of these being activities for which we still don't have much of an experience base, NSF of necessity has to take a much more active oversight role.

Or take the Statewide Systemic Initiative I mentioned. No organization has ever tried to reform math and science education on a statewide basis before. And here NSF certainly cannot just make the grant and step back and wait confidently for good things to happen. Those new programs, which we are inventing from scratch, require constant monitoring and perhaps intervention from Foundation staff.

So if you look at the complexity and the number of the programs and their importance, you could argue funding for staff and program operation should have increased even more than overall funding, but as I pointed out, it has been basically flat over the last 10 years.

So on behalf of the Science Board, and I am sure I speak for the dedicated but increasingly overworked staff of what I think is the finest agency in this city, if not the world, I would like to recommend your careful attention to this problem and, ideally, some sort of a remedy.

I thank you for the opportunity to speak in front of your committee, Mr. Chairman. I will be happy to take any questions.

[Dr. Powell's statement follows:]

STATEMENT BY DR. JAMES L. POWELL, PRESIDENT AND CEO OF THE FRANKLIN INSTITUTE, BEFORE THE HOUSE APPROPRIATIONS SUBCOMMITTEE, FEBRUARY 25, 1992

Mr. Chairman, it is a pleasure to be here today to represent the National Science Board before your subcommittee. I will be brief, but I do feel that it is important to provide you and your colleagues with a sense of the importance of this budget from the perspective of someone involved with science policy as a scientist, an educator, an academic administrator and college president, and now as, the president of a major science museum, an advocate for improving science literacy throughout the population.

Dr. Massey has discussed the priorities reflected in this budget with the National Science Board and we support them. I also want to underscore that the Board deeply appreciates the broad Congressional support for funding basic research and math and science education that has been forthcoming in recent years—particularly at a time when so many demands are being placed on the budget. We know this has not been easy to accomplish, and indeed that it would not have been without the

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oversight and dedication of yourself, Mr. Brown, and others. As I said, a mind is a terrible thing to waste, and, ultimately, I believe, the future of our country depends on the investment that we make in the minds of our youth and our scientists.

This budget request is quite consistent with that view, and reflects the position of Dr. Massey and the Board that attention must be given to strengthening the basic research and education missions of NSF while seeking to build stronger bridges to constituencies outside the normal academic channels. This is not only being done through the ECCSET initiatives, but in the Statewide Systemic Initiative which promises to challenge the conventional wisdom on education in many ways. The emphasis on Biotechnology and Advanced Manufacturing Processes, which build on very strong existing programs at NSF and address both short- and long-term national concerns, is most appropriate.

Let me note two pieces of information that particularly reinforce the need for the NSF strategy:

- Since 1901, the United States has won over 400 Nobel Prizes in Chemistry, Physics and Physiology/Medicine. Japan has won 4.

- A recent government assessment of world leadership in 12 emerging technologies ranks the U.S. as the leader in size: artificial intelligence, biotechnology, high performance computing, medical devices, computer-integrated manufacturing, and sensor technology. Japan is ahead in 5: advanced materials, semi-conductors, digital imaging, data storage, and optoelectronics. Furthermore, by the end of the decade the U.S. is expected to have its leadership position challenged in every position in which we now lead.

Thus the strategic approach embodied in this budget is absolutely essential if we are to maintain our strengths in basic research and create opportunities to provide a tangible return on this investment in our future.

Finally, I want to relate to the Committee and to you, Mr. Chairman, one concern that ranks very highly with all members of the National Science Board and the Director. We, and I am sure this committee and indeed the Congress, are very proud of American science. We recognize that American science would be a pale shadow of itself were it not for the 40 year existence of NSF. I know of no finer agency in this city, or indeed in the world. NSF and its partner, the Research Universities, are the envy of the world, perhaps the clearest remaining example of our can-do society.

I have to tell you, however, Mr. Chairman, that the ability of NSF to maintain itself as the premier science agency in the world is threatened. No, not by insufficient funding overall; that has increased in good order. Rather, the threat comes because, as the overall funding has gone up, the money available for the staff and expenses necessary to operate the programs has gone up barely at all.

NSF staff, one of the most competent groups in any government, are severely overworked. To handle twice as much money with essentially no more staff, as is the case with EHR since only a few years ago, can only mean that each proposal and grant is receiving about half the attention. Ultimately this will turn NSF into a mediocre agency.

In normal times, funds to operate programs should increase at about the same rate as funding overall. But when one looks at the much more complex set of programs that NSF is mounting today, the problem is magnified. When NSF awards a research grant to a scientist in Ann Arbor or Lansing, the Foundation need not provide much in the way of monitoring; it can wait confidently for the final report three years later. When however, the Foundation opens an Engineering Research Center, or participates in one of the complex FCCSET initiatives, both activities for which we do not have much of an experience base, NSF of necessity has to take a much more active oversight role.

Or take the Statewide Systemic Initiative. No organization has ever tried to reform math and science education on a statewide basis before. Here NSF cannot make the grant and wait with confidence; rather, it requires almost constant attention by Foundation Staff.

Looking at the complexity and number, and importance, of these new programs, one could argue that funding for staff and program operation should have increased even more than overall funding. Instead, it has fallen far short.

On behalf of the Board, and especially of the dedicated, but increasingly overworked staff of the finest agency in this city, I ask for your careful study of this problem and a remedy.

Thank you for this opportunity to speak in support of the budget proposed for the National Science Foundation.

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working with you on that. Perhaps there is a way that EPSCOR states can be accommodated and at the same time not do injury in any way to your overall purposes for the traineeship program.

Dr. MASSEY. I am sure we can.

Mr. MOLLOHAN. Thank you.

Thank you, Mr. Chairman.

SALARIES AND EXPENSES

Mr. TRAXLER. Turning to salaries and expenses. We are in the home stretch, folks.

Page S&E-1. You are requesting 135 million in 1993 for salaries and expenses, and that represents an increase of almost 24 percent. Of that 26 million increase requested, 16 is for relocation and related costs of consolidation from all NSF offices to a new permanent headquarters location. Overseas.

Dr. MASSEY. I appreciate that.

S & E PRIORITIES

Mr. TRAXLER. I strongly opposed your going foreign last year, but given the international bent of the Congress, maybe it will be more successful.

Now, it was clear that staffing and related program oversight last year was the highest priority and that relocation was the least of your agency's concerns, or priorities, let us put it that way. Is that still the case with the 1993 request?

Dr. MASSEY. Yes, Mr. Chairman, the priorities remain the same as they did last year. If any adjustments have to be made in this budget, we would hope you would take into account that ordering of priorities.

NSF RELOCATION

Mr. TRAXLER. Did you request the $16 million for relocation from OMB in your 1993 request?

Dr. MASSEY. Yes, we had requested funding, because we also had, as you know, funds in the 1992 budget, and we had to develop a plan to relocate if the funds were available to do so.

Mr. TRAXLER. Last year, you will recall that this subcommittee had serious concerns about the agency relocating outside of the District of Columbia. I think it is fair to say we still have those same concerns for a number of reasons.

The agency is a major player in the FCCSET policy and program development process. I am not sure NSF will be able to continue to play the same active and influential role if you are located outside of the District of Columbia.

Is that a correct assessment? Do you share that concern, Dr. Massey?

Dr. MASSEY. Our Board certainly does, if I can start there.

As you know last year, Dr. Good addressed the committee on that point and wrote a letter to you. And our current chairman, Dr. Duderstat, along with the Board at our last meeting, reinforced that position; I think their reasoning is along the lines you pointed out.

Duderstat letter attached

PART B

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We have discussed a number of initiatives that we are involved in FCCSET that requires close coordination with other agencies. One new initiative in the environmental area would allow us to work closely with EPA. And in dealing with joint programs and proposals, it is the people that matter. The people have to work closely together and coordinate these activities.

So it would have some effect on our ability to carry out those very important parts of our mission.

Mr. TRAXLER. Well, you know in this budget climate, as I have described it to you over these last two days, it is very difficult for the committee to allocate $16 million for relocation. It is very difficult. I can't tell you what the outcome will be.

The committee has not made any judgments as to what is in or out in any portion of this bill, as we sit here today. Ultimately, we will have to address it, but certainly I think we could spend the $16 million in other ways that would be much more productive.

What do you think would happen if the subcommittee makes a decision not to provide the funding for relocation?

Dr. MASSEY. It is difficult for me to predict in my position.

Mr. TRAXLER. Going to be on the street?

Dr. MASSEY. We may be.

Mr. TRAXLER. But you will still be in D.C. I hope you have a big tent.

Dr. MASSEY. I hope they cannot evict us at least until 1995.

Mr. TRAXLER. When is the current lease up?

Dr. MASSEY. 1995.

Mr. TRAXLER. What was the date? What month?

Ms. MCCLINDON. May.

Dr. MASSEY. May 1995.

Dr. MASSEY. We don't want to spend the scarce resources to support people, which is so important, and certainly not research dollars, programmatic dollars, for that kind of activity if you have to reduce the budget.

FTE LEVELS

Mr. TRAXLER. You are requesting an increase of 30 FTEs in 1993. What will your employment level be at the end of 1993?

Dr. MASSEY. Connie, you want to? Or Joe?

Mr. KULL. 1,250 FTEs. That is the total for NSF. That doesn't include the Inspector General's Office. That is a separate issue.

Mr. TRAXLER. Last year, you estimated an FTE level of 1,202 in 1991, and the justifications indicate the actual FTE level of 1,192 in 1991. You were 10 less than estimated. What is the reason for that?

Mr. KULL. Well, basically, we are limited by dollars, more than anything else, because of the cost of FTEs.

Mr. TRAXLER. And you tell us what your current level of employment is?

Mr. KULL. Now, we are at 1,200 FTEs annually.

TRAVEL EXPENSES

Mr. TRAXLER. You are requesting $4 million for travel in 1993. That is a 53 percent increase above 1991. Are you anticipating toll

NATIONAL SCIENCE BOARD
1800 G STREET, NW
WASHINGTON, D.C. 20550

February 21, 1992

The Honorable Richard Darman
Director
Office of Management and Budget
Washington, DC 20503

Dear Mr. Darman:

As you may know, I have the honor of serving as the current Chairman of the National Science Board, the policy-making body of the National Science Foundation. In this role I wish to convey to you the great concern of the Board about the present plans to relocate the Foundation outside of the District of Columbia.

We believe that such a move could significantly diminish both the Board's and the Foundation's role in federal science and technology policy. Further it could seriously impede the Foundation's effectiveness in interagency efforts such as those developed through the Federal Coordinating Council on Science, Engineering, and Technology.

The close cooperation and coordination of federal science and technology through the FCCSET process has allowed the NSF to contribute both its strengths and its unique relationship to universities to the efforts of other federal agencies. We believe that such cooperative arrangements work best if physical proximity can be maintained. It is my understanding that there has been recent discussion about the possibility of locating both NSF and the Environmental Protection Agency in a new site formerly identified for the International Center for Trade and Culture. Such an arrangement would be ideal; the proximity would facilitate interaction between the Foundation and the Administration and its various agencies. In addition, the Foundation would be able to use its unique relationships with universities to benefit the environmental research role of the EPA and perhaps open up new possibilities for collaboration.

In summary, the National Science Board asks you to reconsider the present plan to relocate the National Science Foundation outside of the District of Columbia, both from the perspective of effective science and technology policy development and from the increased efficiency and effectiveness that results from the Foundation's close proximity to other federal agencies.

Sincerely,

James J. Duderstadt
Chair