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LEGISLATIVE BRANCH APPROPRIATIONS FOR 1970

ADDITIONAL HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

NINETY-FIRST CONGRESS

FIRST SESSION

SUBCOMMITTEE ON LEGISLATIVE BRANCH APPROPRIATIONS

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TOM STEED, Oklahoma
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PAUL M. WILSON and EARL C. SILSBY, *Staff Assistants to the Subcommittee*

EXTENSION OF WEST CENTRAL FRONT OF CAPITOL BUILDING

Printed for the use of the Committee on Appropriations

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U.S. GOVERNMENT PRINTING OFFICE
33-798 O WASHINGTON : 1969

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LEGISLATIVE BRANCH APPROPRIATIONS FOR 1970

MONDAY, SEPTEMBER 8, 1969.

PLANNING FUNDS FOR EXTENSION OF THE WEST CENTRAL FRONT, U.S. CAPITOL

WITNESSES

J. GEORGE STEWART, ARCHITECT OF THE CAPITOL
MARIO E. CAMPIOLI, ASSISTANT ARCHITECT OF THE CAPITOL
CHARLES A. HENLOCK, ADMINISTRATIVE OFFICER
PHILIP L. ROOF, EXECUTIVE ASSISTANT
F. W. WINKELMANN, GENERAL COUNSEL
FRANK X. KUHN, STONE SPECIALIST
CHARLES A. DURKIN, ASSISTANT TO ADMINISTRATIVE OFFICER
WILLIAM F. RAINES, ASSISTANT TO EXECUTIVE ASSISTANT

Mr. ANDREWS of Alabama. The committee will come to order.

This special hearing is called to consider a request for $2 million for detailed planning and associated expenses for extending and reconstructing the deteriorated, and deteriorating, west central front of the Capitol Building.

The Speaker of the House as chairman of the Special Extension Commission, wrote to me on August 8 of this year, after the regular hearings on the legislative bill for 1970 were closed and after we had in fact tentatively marked up the bill and urged that we consider this request, which he said was urgent and which he indicated was unanimously agreed to by all members of the special Commission as a proposition that should be pressed at this time.

He asked that we consider the matter in connection with the regular bill for fiscal 1970. That is the purpose of this hearing today. We are scheduled to take the bill to our full committee on Thursday of this week. We have Mr. Stewart and his associates here.

I am advised that a formal budget request for the $2 million has gone forward but has not, as of the moment, been received. I assume it will be received shortly.

Mr. Stewart, suppose you proceed.

SUMMARY STATEMENT

Mr. STEWART. Mr. Chairman, I have a brief opening statement and then I would like, with your permission, for Mr. Campioli and my other assistants to present the justifications, as well as the renderings, elevations, floor plans, and other related materials.

As you gentlemen know, I have been recommending this work for a long time. The conditions of this old front have been a constant source of grave concern to me ever since I became Architect of the Capitol in 1954 and began to study and examine the structure firsthand.

Knowing the dangerous conditions that exist out there, I am disturbed daily when I hear and feel the vibrations of highspeed aircraft flying overhead. Only recently, I disapproved a request that helicopters be permitted to fly over or near the building at a lower ceiling than now permitted. I have mentioned in the past the damage that could occur from an earth tremor. In the last 3 years, earthquakes were recorded as close as the eastern and western regions of Virginia.

I worry especially during an occasion such as the State funeral services for the late President Eisenhower when the leaders of all branches of Government were concentrated in the Capitol and when many thousands of our citizens passed through the building, entering the main east door and passing out in procession through the deteriorated west side. Just think of what would result if during such a period the west section should collapse or even partially collapse.

I appreciate the budget conditions in the country at this time, but if we can afford any expenditure for a public building, putting the National Capitol in a sound condition should come first.

I, therefore, urge you to grant the funds for final plans which we are requesting.

Mr. ANDREWS of Alabama. How do you wish to proceed from here?

Mr. STEWART. I would like for Mr. Campioli, the Assistant Architect of the Capitol, who is an architect by profession, to present and enlarge upon our prepared report.

Mr. ANDREWS of Alabama. Mr. Campioli, do you have a statement?

Mr. YATES. Mr. Chairman, may I ask whether we can have an explanation of what the Architect called the dangers that are involved at the present time? What is meant by the dangers?

Mr. STEWART. Mr. Campioli and Mr. Kuhn, who is a specialist on stone, will testify further on those points.

Mr. ANDREWS of North Dakota. Mr. Chairman, looking at Mr. Campioli and in view of a recent editorial in a local newspaper, I can't help but remember a phrase this newspaper used to the effect that you wouldn't have these fellows (the Capitol Architect's office) do work on Colonial Williamsburg? Did you actually spend quite a bit of your career there before coming here?

Mr. CAMPIOLI. I was director of architecture there for 8 years.

QUALIFICATIONS OF ASSISTANT ARCHITECT OF THE CAPITOL

Mr. ANDREWS of Alabama. What are your qualifications? I know generally, but put them in the record at this time. What honors have you held in the American Institute of Architects?

Mr. CAMPIOLI. I am a member of the American Institute of Architects and have been a registered architect since 1936. I graduated and received my training at Columbia University and New York University, and my degree from the latter.

I was registered in the State of New York in 1936; the State of New Jersey in 1940; the State of Virginia in 1949.

I acted as production manager of the architectural firm of Eggers & Higgins in New York for 9 years.

I was director of architecture at Williamsburg for 8 years and I have been in Washington since 1957.

SERVICES RENDERED IN CONNECTION WITH WILLIAMSBURG RESTORATION

Mr. ANDREWS of Alabama. Just what did you do at Williamsburg?

Mr. CAMPIOLI. We restored many buildings during that period of 8 years. I think the greatest part of the construction program was done during the period I was there. In addition to which, we constructed a number of non-restoration-type buildings, such as the new Information Center, which included a building with double theaters, a separate cafeteria building, an office building for its administration, motel accommodations for over 200 rooms. We also made a million dollar addition to the Williamsburg Inn, and a substantial addition to the Williamsburg Lodge. The new construction had to be in harmony and architectural character with the old structures, though of different design.

Mr. ANDREWS of Alabama. By whom were you employed as an architect?

Mr. CAMPIOLI. Colonial Williamsburg, Inc.

Mr. ANDREWS of Alabama. What is that?

Mr. CAMPIOLI. That is a non-profit educational corporation organized to restore, interpret, and preserve the old colonial project of the colonial city of Williamsburg.

Mr. ANDREWS of Alabama. How many architects were down there?

Mr. CAMPIOLI. I had a staff of 52, the majority were architects and engineers.

Mr. ANDREWS of Alabama. Were you the head man?

Mr. CAMPIOLI. As director of architecture, I was responsible for all architectural and engineering work required for the Williamsburg restoration project, including restoration, reconstruction, and new construction.

Mr. ANDREWS of Alabama. So we do have on the Architect's staff a man who has a long record of experience as an architect, one who has worked on what many people consider to be the most beautiful architecture in the United States, Williamsburg.

OTHER WORK PERFORMED

Mr. CAMPIOLI. During my period at Eggers & Higgins, I also worked on the National Gallery of Art, Jefferson Memorial, Archives Building, and a number of other prominent projects, including the American Red Cross, here in Washington.

During my early period here in Washington, I was in charge of the extension of the east central front of the U.S. Capitol.

EXTENT OF RESPONSIBILITY

Mr. ANDREWS of Alabama. Would you list the contributions you have made to the field of architecture?

Mr. CAMPIOLI. Most of my experience has been as a member of some architectural organization and in most of the offices I held a key responsible position. In the first one I was an associate of the firm. In the second one I became the production manager. In the third one I was office manager and an associate of the firm, and at Williamsburg I was director of architecture.

ARCHITECTS AND ENGINEERS ON OFFICE STAFF

Mr. ANDREWS of Alabama. Do you have any architects on your staff here at the Capitol?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. Certified?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. How many?

Mr. CAMPIOLI. Two, in addition to myself.

Mr. ANDREWS of Alabama. Do you have any engineers?

Mr. CAMPIOLI. A number of them.

Mr. ANDREWS of Alabama. How many?

Mr. CAMPIOLI. At least six I would say.

Mr. ANDREWS of Alabama. Are you an architect and an engineer?

Mr. CAMPIOLI. No, sir; I am an architect, but, as an architect, one must also be knowledgeable of engineering inasmuch as most architects sublet the engineering and have to be responsible to the client for the engineering.

CONFLICTS BETWEEN OPINIONS OF ARCHITECTS

Mr. ANDREWS of Alabama. I would like to ask you this question, either on the record or off the record. I don't want to embarrass you. Is there much jealousy between the architects in the profession?

Mr. CAMPIOLI. I think there is among some members of the architectural profession, just as there is among other professions. I would not say that exists professionwise. The architects and engineering organizations are working together on many projects right now as there are other interests that are trying to take the work away from architects and engineers.

Mr. ANDREWS of Alabama. Whenever this proposal is raised to reinforce or extend or shore up the west front of the Capitol, it seems to create quite a bit of controversy between architects.

Can you give us any reason for that? Could jealousy be part of that?

Mr. CAMPIOLI. I think normally those that are out feel that way to some extent about those that are in with respect to major architectural undertakings.

Mr. ANDREWS of Alabama. That is natural. That applies to politics.

Mr. CAMPIOLI. I think you are going to experience such feelings to some extent, no matter whom you pick as an architect for any major project. Those that are not included will generally feel they should have been included.

Mr. ANDREWS of Alabama.. On the theory the "outs" think they could do a better job than the "ins."

Mr. CAMPIOLI. We have even had incidents of several prominent architects of the AIA come to Mr. Stewart and say, "Give me the job and you will have no trouble with the AIA."

DIFFERING VIEWS WITH RESPECT TO ARCHITECTURE

Mr. YATES. Mr. Chairman, if I may ask a question at this point, It is more than that; is it not? Isn't there a group in the AIA, as there is in

all other aspects of the culture of our society, who think there ought to be development of contemporary architecture, rather than continuing past designs?

Mr. CAMPIOLI. Yes, sir; that is so.

Mr. YATES. That is a fundamental dispute with the Rayburn Building. Its design was criticized as not being reflective of contemporary architecture. I do not think we ought to leave the record showing that the principal reason for the dispute over the west front is that some are in and some are out. I think there is a very serious disagreement as to what the trend of architecture should be in this country.

Mr. CAMPIOLI. Of course, that has no place in connection with the Capitol project.

Mr. YATES. Isn't this true?

Mr. CAMPIOLI. It is in respect to most projects; but certainly there is no question of application of changes in architectural trends with respect to the U.S. Capitol, although one architect did actually recommend that we should add a contemporary wing to the Capitol.

Mr. YATES. The point I am trying to make is that it is not just a question of one disgruntled group against another group. There is a fundamental difference as to what the design of architecture should be in our time.

Mr. CAMPIOLI. Yes, but I think in regard to the Capitol there should be no difference of opinion.

Mr. YATES. How can you avoid a difference of opinion? There is an honest disagreement on the course to be taken? Isn't the basis for this controversy whether there ought to be an extension or whether the original wall should be preserved?

Mr. CAMPIOLI. There has been no argument by the AIA representatives regarding the design of this proposed extension. The only difference lies among some of the purists who want to hold to restoring or so-called restoration of the west front wall, instead of extension.

Mr. YATES. That is the point.

Mr. CAMPIOLI. I will cover that later in the prepared statement.

Mr. ANDREWS of Alabama. Suppose you proceed with your prepared statement. We have settled the difference between architects.

(Discussion off the record.)

PREVIOUS POSITION OF AIA ON EXTENSION PROPOSED

Mr. CAMPIOLI. I would like to say, when this subject came up a couple of years ago at the AIA convention at Los Angeles where they wanted to adopt a resolution taking a position against the west front, the membership would have no part of it and they tabled the motion over the leadership's strong objections. Later on, through a vote adopting the total printed report of the board of directors of the AIA, which contained a short paragraph stating the objections of the board of directors to the west front extension, the leadership got their brief statement approved. Yet the membership had specifically tabled the resolution against the west front.

Mr. YATES. I think this is an important point that you make. The point that I was trying to make in my previous question was that there is a sharp cleavage based upon a serious difference in what should be done.

Mr. CAMPIOLI. It is not the design; it is the fact that it is extension——

Mr. YATES. Versus preservation of the existing structure?

Mr. CAMPIOLI. That is right.

Mr. ANDREWS of Alabama. You may proceed with the overall formal justification statement. After you read it we will have more questions.

OVERALL JUSTIFICATION STATEMENT FOR THE PROPOSED EXTENSION WORK

(CLERK'S NOTE.—Mr. Campioli read the following statement and attached certain correspondence and comments.)

EXTENSION OF THE CAPITOL.....$2,000,000

This estimate is submitted upon the unanimous direction of the Commission for Extension of the United States Capitol, created by Public Law 242, 84th Congress, and consisting of -

Hon. John W. McCormack (Chairman), Speaker of the House of Representatives

Hon. Spiro T. Agnew, President of the Senate

Hon. Everett M. Dirksen, Minority Leader of the Senate

Hon. Gerald R. Ford, Minority Leader of the House

Hon. J. George Stewart, Architect of the Capitol

You will recall from previous hearings that three plans of extension of the West Central Front of the Capitol were considered by the Commission and that Plan 2 was approved. Based on such approval of Plan 2, the Congress appropriated $300,000 for the preparation of preliminary plans and estimates of cost and those plans were completed and circulated to all Members of the House and Senate by the Speaker, as Chairman of the Commission.

The funds now requested are for the final planning work to carry Plan 2 into effect. Such planning consists of preparation of contract plans and specifications (suitable for competitive bidding purposes), checking of shop drawings, supervision and other incidental expenses, all computed as follows:

Estimate 1970
#2 - Ext. of Cap.

Total associate architect-engineer fee stated in 1967 report for building work ($27,116,000 building cost x 7½% fee rate)		$2,033,700
Less: Already paid architect-engineers for preliminary plans and estimates of cost	(-)	240,000
		$1,793,700
Plus: Fee for advisory architects (two architects, one landscape architect, and one sculptor)--four at $10,000 per annum for 1½ years	(+)	60,000
Administration and miscellaneous expenses	(+)	150,000
TOTAL		$2,003,700

As indicated above, the basis for the fee of the architects-engineers is the 1967 report which developed a building cost of $27,116,000. While it is realized that the building cost has escalated since that time, the architects-engineers have agreed that the fee may be based on that figure, subject to adjustment to an actual cost basis should the construction work proceed. They have also agreed that should the project not proceed, the government will be obligated for a fee based only on the $27,116,000 in the 1967 estimate.

In connection with the fee, we should also mention that the percentage rate has been reduced from 8½% this group received for the east front work to 7½%. This reduction is possible in view of the over-all knowledge of the old portions of the building gained by the architects-engineers as a result of their east front service and other studies of the building.

The preparation of contract plans and specifications suitable for bidding will require approximately 18 months. This planning may be accomplished on a basis that would permit the construction work to begin during the 18 months planning period and be carried forward in the following stages:

1. Relocation and Preparation: Construction of temporary facilities to house activities now carried on in the terrace areas and relocation of utilities and other facilities.
2. Furnishing and delivering of marble and granite and reworking existing granite.
3. Demolition, excavation, foundations, and structural work on terrace.
4. Superstructure.
5. Furniture and furnishings.

On this basis, the project could be substantially completed in approximately 51 months, including time required for preparation of contract plans and specifications.

Estimate 1970
#4 - Ext. of Cap.

NEED FOR WEST FRONT WORK

As stated in Speaker McCormack's letter of August 8, 1969, to Chairman Andrews, the proposed extension and reconstruction of the west side of the Capitol will accomplish the following broad objectives:

1. Make the west front safe, sound, durable, and beautiful for the foreseeable future.

2. Provide greatly needed working space for the Congress, including some large committee hearing rooms, additional elevators, and escalators, as well as space for the public.

3. Provide service facilities for trucks, etc., on the west side underground and out of sight, which will do away with the rather disgraceful conditions we and the public observe daily now when deliveries are made and trash and garbage are removed "at our front door steps" via the East Plaza.

4. Strengthen the central front architecturally, while preserving the essential character of the original architecture.

1. Make the West Front safe, sound, durable, and beautiful for the foreseeable future

This first purpose stated by the Speaker is the overpowering reason for proceeding with this project with the least possible delay. This side of the building is in the advanced stages of deterioration. It is in a dangerous condition. There is no argument on this point even from those who oppose the project.

Exterior surfaces are bulged as much as 4½ inches. Stones are severely cracked, many cracks running from the bottom to the top of the walls. New cracks have occurred since the stonework was pointed and painted last year. Large chunks of stone have fallen from this side of the building. The architrave stones over the portico have seriously sagged and have been propped up with heavy wood timbers. Braces have also had to be installed to buttress the old Senate and House wings. The keystones over the windows have slipped down, leaving voids which have been filled with concrete. Much of the original architectural detail has eroded and disappeared. Recent studies have shown that there is some slippage down the hill. In a letter of August 20, 1969, our consulting engineer, Dr. Miles N. Clair, President of The Thompson & Lichtner Co., Inc., stated: "The data indicates that there is movement horizontally and vertically of most of the walls. The probable maximum settlement for one year will be one quarter inch which is a cause for concern in a structure of this type and age and confirms the need for corrective action recommended by our report of November 1, 1964."

A. Reasons for Present Conditions

The reasons for these deplorable conditions are rooted in the early construction and the building materials used in the building when this Nation was in its infancy and to the damaging effects of catastrophes in the building during the last 170 years. Many persons believe or attempt to give the impression that the Capitol as we see it today

resulted from one grand design and that it was constructed, complete, at one time period in history. Of course, as you know, that impression or belief is false; the building was designed and constructed on a fragmentary basis over a period of many years.

Specific reasons for the present conditions of the west wall are:

The original construction was of inferior building material. The sandstone used is a soft material which erodes or crumbles easily when subjected to long exposure to the elements. It absorbs and holds moisture. When freezing occurs, the trapped moisture becomes ice which results in spalling or cracking of the stone.

The outer face of the wall is of cut sandstone and the inner face is of rubble stone. The core of the wall between these faces is filled with loose rubble with little or no mortar. This type of construction has contributed to the bulging, cracking, falling of stonework, etc.

The original Capitol has endured great fires and a gas explosion. (The fire of 1814 by the British; the fire in the west central wing in 1851; and the gas explosion in the old Senate Wing in 1898.) All have contributed to the present deplorable condition.

There are no expansion joints in this old section of the building, resulting in cracking, opening of joints, bulging, etc., caused by thermal expansion and contraction.

The grades beyond the old walls have been lowered by later additions to below the footings of the old walls (by the addition of the present Senate and House Wings in the middle 1800's and the addition of the terraces in the late 1800's).

B. Recommendations of Architects-Engineers twelve years ago

As long ago as 1957, the architects-engineers who had carefully studied the conditions of both the east and west front stated in their report and recommendations which was the basis for the extension of the east front:

> "The deterioration of the sandstone out of which the East and West facades of the central portion are constructed, began with the fire started by the British during the war of 1812, was further aggravated, particularly in the East, by the gas explosion and fire of 1898, and has continued ever since, abetted by the disintegration caused by the countless coats of paint applied through the years. As a safety measure and in order to preserve the Capitol not only as a National Shrine, but also as the Seat of Government, the East and West walls must be replaced."

C. Study by Outside Engineer

As a result of concern of the Senate and House Appropriations Committees and the Commission in charge, the Architect of the Capitol in 1964 was directed by the Commission to enter into a contract with The Thompson & Lichtner Co., Inc., of Brookline, Massachusetts, for a fresh engineering study of the conditions of the West Front. This firm had wide experience in studying and determining remedial measures which should be taken in the preservation and reconstruction of old masonry structures in this country and overseas.

The contract with the firm was entered into in March, 1964 and their five-volume report received in November, 1964.

Their report was to include all their findings and their recommendations on:

(1) Whether the existing wall, if found deficient, can be repaired in its present condition.

(2) Whether the existing wall can be refaced with marble in its present location.

(3) Whether remedial action requires extension of the west central front and its reconstruction in marble, or

(4) Whether any other means of preservation are deemed feasible and advisable.

Their key findings and recommendations were summarized in letter accompanying the report as follows:

(a) Retention and repair of the existing walls as corrective action is not recommended as it would require the hazardous removal of much of the facing so as to allow installation of ties to the backup wall, or the installation of ties through the face joints with resulting disfiguration of the structure. There would still be walls and foundations of structurally inferior construction with the walls requiring continuing protective treatment.

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(b) Facing of the existing walls as corrective action with durable marble and granite, leaving the sandstone in place, is not recommended because it would require additions to the present foundations and there would still remain walls and foundations of structurally inferior construction without preserving the historic architecture.

(c) Removal of the sandstone completely and replacement by high quality marble and granite as corrective action is not recommended because it would be a very costly and hazardous operation and there would still remain walls and foundations of structurally inferior construction.

(d) Removal of the entire wall and foundation and replacement by reinforced concrete with a facing of high quality granite for the courses at grade and high quality marble above for the face stone is not recommended because of the hazard, cost and interference with occupancy.

(e) Retention of the wall as an interior wall of an extended building is recommended as the least hazardous and as causing the least interference with the occupancy of the present structure. A properly designed and constructed extension would also provide desirable lateral support for the West Central Portion of the Capitol.

D. Hearings on Engineering Survey

In testifying in the public hearing before the Commission on June 24, 1965, Dr. Miles N. Clair, President of The Thompson & Lichtner Co., Inc., stated as follows with respect to the dangerous conditions which he found requiring immediate action and the plan for permanent corrective work:

> "Speaker McCormack. Are there any dangerous conditions which require immediate attention? If so, what would be involved?
>
> "Dr. Clair. Well, just to work backward on this model. To correct the condition of the foundations at the retaining walls of the terrace, they would have to be underpinned.
>
> "Speaker McCormack. Underpinned?
>
> "Dr. Clair. Yes. You would have to provide a deeper foundation. The entablature area would have to be removed and rebuilt. The walls at the terrace level would have to be removed and rebuilt.
>
> "Speaker McCormack. Would it be advisable to do that without doing a complete job?
>
> "Dr. Clair. This must be done. Something must be done on this immediately, sir.
>
> "Speaker McCormack. What do you mean by 'immediately'?

"Dr. Clair. Next week. I am not kidding. I think it is so serious something should be done at once.

"Mr. Ford. Would there be any difference of opinion between you and some other person equally knowledgeable and experienced?

"Dr. Clair. There can always be a difference of opinion, sir. I am talking about responsibility. If you have the responsibility for a structure which is in this condition and portions of it which are in this condition, you must put yourself on record that you believe this or you believe that. This is what I believe.

"Speaker McCormack. Would these stopgap measures, assuming they were carried out, be economical and a satisfactory solution over a long period of time?

"Dr. Clair. No. What is needed here, sir, is to correct this whole condition. The condition you have of a wall here that is not in a good condition and is deteriorating and all these stopgap things that you do, of course, simply put off the day when you have to do the whole job. What is needed here is to, in my opinion, protect this whole wall, enclose it just as you did on the east side by another structure. Then you stop the weather action on it. You no longer will have the weather acting on it. The weather is acting on this wall because no matter how you maintain it by painting, water gets into it, freezing occurs, and you have further deterioration.

"You have got to realize the condition of this wall, these walls, to see why this is necessary and why this is serious. These walls have on them a face of sandstone, local sandstone, which is quite inferior for use when exposed to the weather.

"I am answering your question. To give you an idea of the quality of that sandstone, there is a picture of the same material which was not protected. That is an old bullfinch stone-gate standard there. That is how the sandstone has gone to pieces without the help of paint to protect it.

* * * * * * * * *

"Mr. Ford. You have indicated that in your judgment this is a critical, serious situation. I asked whether you knew of any knowledgeable, experienced opinion that might be contrary to yours.

"Dr. Clair. I would doubt it. I would doubt that anyone would come up -- the only question would be the degree which they would apply to it.

"Mr. Ford. Degree of seriousness?

"Dr. Clair. That is right. The time in which this would have to be done. I do not think any competent structural analyst or person experienced in this field would come to any other conclusion. They might say it might last; you might not have to worry about it for 25 years. I say that if you start it now you could not possibly have the plans drawn and the construction completed for less than 5 years. I think that is what you should do.

"Someone might say you should do it in 10 years. I do not think they would be much beyond that."

E. The effect of Plan 2 on the Structure

The carrying out of Plan 2 will accomplish all of the objectives stated by the Speaker in the No. 1 and prime purpose. The extended front will act as a buttress to the old front, thereby affording the support required to prevent further movement, bulging, and falling off of stonework. The old walls will be protected from the elements and changes in temperature, thus stopping prevailing deterioration.

The exterior of the new front will be constructed of marble and granite, thereby providing the durability and structural soundness required -- the same material now used on all sides of the building except the West Central Front.

Upon completion of this work, the west front will truly be "safe, sound, durable, and beautiful for the foreseeable future".

2. Provide additional working space for Congress and accommodations for the public

The need by the Congress for more space in the Capitol is a constantly growing need. The expansion of the "legislative plant" since 1793 is outlined in a different section of this justification. It is difficult for many of our citizens who visit the Capitol each year to understand why the Congress must operate under some of the deplorable conditions now experienced. For example, in one large and important committee there is no

room available where the Committee may meet without some of the Members sitting with their backs to other Members. The Appropriations Committees in particular need additional committee space near the chambers where they may hold hearings day after day and be available to go to the chambers and vote when necessary.

Under the extension plan, several large hearing rooms may be constructed on each side, near the House and Senate Chambers.

The leaders, assistant leaders, and whips need more and better space near the chambers. Adequate facilities could be provided under the extension plan.

The officers of the two houses need additional space which would flow from the expansion program.

There has been a cry from the Congress and the public for more elevators in the Capitol. The extension plan will provide them, three on the House Side and three on the Senate Side, centrally located.

Every Member of the Congress is stopped from time to time by visitors and asked for directions. The questions normally run something like these: Where is the nearest washroom? Is there a cafeteria in the building where we may eat? Where are the Senate and House Chambers? Where is the Rotunda?

For some years, your committees have properly "hounded" us to provide adequate toilets and washrooms for the public. Time and time again, we have had to report that there is just no space. The west front extension will provide adequate public washrooms, four on each floor (two on the House Side and two on the Senate Side) near the elevators -- a total of 16 public toilets in these locations, plus 4 in the area on the west side for the visitors' center, and 4 more in the area of the Cafeterias.

Where may we eat? The west extension will provide two cafeterias at the center of the building in the terrace structure, capable of serving 600 persons at one time. In addition, dining rooms seating about 600 persons will be provided in the same general area.

New directional and informational facilities will be provided for visitors.

Circulation through the building will be improved greatly by new through corridors on several floors, more elevators and escalators.

3. Provide delivery and service facilities

It is unthinkable that the Capitol of our great Nation should still suffer such unsightly occurrences as delivery trucks unloading at our front door, trash and garbage being removed via the same front across the great plaza, waste of various sources being swept by the wind across the lawns and among the shrubbery -- in fact, all the daily needs of the

building being brought in through two sidewalk elevators on the east front in the sight of visitors -- our own citizens plus those from many lands.

The west extension will do away with these disgraceful conditions by providing "out-of-sight" underground loading and unloading facilities under the west terrace.

4. Strengthen the West Front architecturally

One gifted architect some years back recommended an extension to the west and said the west front "has always had an undigested look". This is another way of saying its various parts, seen together, lack harmony. Even to the casual observer, something is lacking. The dome has no focal point. It gives the appearance of being much too large and heavy for the small central portion under it, especially if viewed from the mall area. Because of the lack of focal point or axis, it appears that the dome could be moved about on the roof of the building, much like an inverted cup is moved about on a table.

The objections could be overcome by retaining the essential early architecture, but by widening the portico slightly and providing a pediment over the portico, pointing to the dome, and thereby breaking the 700 plus feet of straight roof line now exist-

ing. Some of the windows would be changed from flat-head to round-head and vice versa to improve the over-all composition. The location of the steps leading to the terrace would be slightly narrowed and relocated for better composition and utilization of space. Other than these changes, the prevailing architecture (as it originally existed -- not in its present unsightly state) would be reproduced in marble and granite in the new west front.

Mr. David N. Yerkes, representing the Commission on Public Affairs of the American Institute of Architects, testified before the House Appropriations Committee a few years ago:

> "I would like to point out this is not an esthetic controversy as far as the American Institute of Architects is concerned. We have no criticism of design for the extension of the west front."

With respect to the Plan 2 design, a committee of the American Registered Architects who studied the building's condition, the engineering and architectural reports, adopted a resolution stating in part:

> "*** that this committee endorses without hesitation the proposal of the Architect of the Capitol and the associate and advisory architects to correct the condition of a crumbling Capitol by extending the West Front as proposed, accomplishing at the same time the addition of needed space and the preservation for posterity in marble, the architectural details that are now lost in crumbling sandstone and paint...".

So, insofar as the design is concerned, Plan 2 has received general approval or acceptance.

PLAN 2 - ITS DESCRIPTION, SCOPE, COST, AND APPROVAL

This plan contemplates the reconstruction and extension of the west central front, in much the same manner as the east front was extended 1958-1961, retaining the essential character of the existing architecture, but with improvements to strengthen the front architecturally, as indicated in the model on display in Statuary Hall of the Capitol. The architectural changes provide for widening and strengthening the portico, the addition of a central pediment to give direction to the Capitol on the East-West axis -- to accentuate the dome -- and to interrupt the long straight line of the existing roof balustrade; to strengthen the central section by the introduction of circular openings and an arcade on the ground floor level; and the slight narrowing and relocation of the central steps to provide better architectural composition and better space utilization.

Extensions to Sections

The various sections on the west side will be extended as follows:

Center portion.....44 feet
Old House Wing.....88 feet
Old Senate Wing.....88 feet
House connecting corridor.....56 feet
Senate connecting corridor.....56 feet

Area of Extension

The gross area of the addition is.....269,528 sq. ft.

The net area of the addition is.....162,468 sq. ft.

Estimate 1970
#19 - Ext. of Cap.

The analysis of space to be provided by extension is, of necessity, somewhat tentative in exact details. The size of areas within the walls could be changed and probably will be changed before the final plans are completed, after we go over carefully with those in charge of space on both the House and Senate Sides the areas to be provided and after they determine more precisely the most pressing needs. The items that are more or less fixed are the service areas for the elevators, stairs, escalators, public toilets, etc..

Space Provided under Plan 2

The total ROOMS, AREAS, and FACILITIES provided total.....285

These are detailed as follows:

Joint conference rooms	1
Large committee rooms	1
Large subcommittee rooms	2
Large conference room	1
Large offices (or conference rooms)	43
Medium offices	55
Small offices	3
Dining rooms	2
Dining foyers	2
Private dining rooms	2
Cafeterias	2
Document room	1
Barber shop	1
Unassigned office areas (4,256 square feet)	3
Unassigned public space (subbasement)	1
Unassigned space (subbasement)	1
Unassigned storage space (34,702 square feet)	25

Private toilets	14
Entrance lobbies	3
Elevator lobbies	10
Escalators	2
Passenger elevators	4
General service elevators	2
Local service elevators	2
Stairs	19
Men's toilets	12
Women's toilets	12
Kitchens	2
Kitchen facilities	2
Service docks with control facilities	2
Garbage refrigeration rooms	2
Service toilets	2
Janitors closets	12
Electric closets	12
Telephone closets	10
Mechanical equipment rooms	15

Note: Offices are classified for the above purpose as follows:

Large -- if of an area greater than 400 square feet
Medium -- if of an area greater than 180 square feet
Small -- if of an area of less than 180 square feet

Detail of Rooms, Areas and other Facilities by Floors:

Sub-subbasement	2	- Storage Areas
	2	- Service Elevators
	5	- Stairs

Detail of Rooms, Areas and other Facilities by Floors
(Continued)

Subbasement.....	2	- Visitors' Auditorium (400 seats each)
	1	- Information and Exhibition Lobby
	6	- Storage Areas
	2	- Service Docks
	1	- Public Lobby
	2	- Mechanical Equipment Rooms
	4	- Service Elevators
	7	- Stairs
	1	- Escalator
Basement.....	2	- Cafeterias (300 seats each)
	2	- Foyers
	2	- Dining Rooms (270 seats each side)
	2	- Kitchens (with pantry)
	2	- Storage Rooms
	10	- Offices
	2	- Mechanical Equipment Rooms
	2	- Women's Toilets
	2	- Men's Toilets
	4	- Passenger Elevators
	4	- Service Elevators
	2	- Stairs
	2	- Private Dining Rooms
First Floor.....	1	- Committee Room
	1	- Conference Room
	25	- Offices
	2	- Stairs
	6	- Storage Rooms
	2	- Women's Toilets
	2	- Men's Toilets
	7	- Private Toilets
	4	- Passenger Elevators
	2	- Service Elevators

Detail of Rooms, Areas and other Facilities by Floors
(Continued)

Principal Floor.....	1	- Subcommittee Room
	27	- Offices
	1	- Storage Room
	2	- Women's Toilets
	2	- Men's Toilets
	12	- Private Toilets
	4	- Passenger Elevators
	2	- Service Elevators
	2	- Stairs
Gallery Floor.....	1	- Subcommittee Room
	1	- Joint Conference Room
	27	- Offices
	2	- Women's Toilets
	2	- Men's Toilets
	2	- Private Toilets
	4	- Passenger Elevators
	2	- Service Elevators
	2	- Stairs
	1	- Document Room
Attic Floor.....	1	- Document Room
	26	- Offices
	3	- Mechanical Equipment Rooms
	2	- Women's Toilets
	2	- Men's Toilets
	2	- Storage Rooms
	2	- Passenger Elevators
	2	- Service Elevators
	2	- Stairs
	2	- Electrical Machine Rooms

Estimate 1970
#23 - Ext. of Cap.

COST

Based on preliminary plans ordered by the Congress and published in 1967, the total cost of the project, including furniture and furnishings, would be $34,937,100.

A recent updating of that figure, assuming a work period 1970-1973, resulted in a rough estimate of $44,791,000. This 1969 figure is based on the 1967 (prepared in 1966) figures, adding building cost index data for 1967 and 1968 and an estimated 7 per cent per year increase compounded thereafter.

Comparative Estimates of Cost of Project, 1967 and 1969

	1966-67	1969
Relocation and Preparation:		
Temporary structures	$ 418,000	$ 497,000
Relocation of utilities and other facilities	455,000	541,000
Granite and Marble Supply:		
Granite and Marble - cut, carved, delivered	5,700,000	6,771,000
Foundations:		
Demolition, excavation, footings, structural to terrace	4,818,000	5,724,000
Superstructure:		
Structural above terrace; setting granite and marble; mechanical, electrical, plumbing, vertical transportation; interior finishes	13,257,000	15,754,000
Total: Building Cost	$24,648,000	$29,287,000

Comparative Estimates of Cost of Project, 1967 and 1969
(Continued)

	1966-67	1969
Plus:		
Projected escalation:		
1967-70 -- 3.5 per cent compounded annually on cost of work to be done in each year	$ 2,468,000	
1970-73 -- 7 per cent compounded annually on cost of work to be done in each year		$ 5,432,000 1/
Total Building Cost projected to completion of project	$27,116,000	$34,719,000
Interior furnishings:		
Carpets, drapes, furniture, accessories	1,015,000	1,206,000
Plus:		
Projected escalation: 1967-70	101,000	
1970-73		269,000 1/
Total interior furnishings cost projected to completion of project	$ 1,116,000	$ 1,475,000
TOTAL: BUILDING AND FURNISHINGS	$28,232,000	$36,194,000
Additional Costs:		
Architectural, engineering, and administrative costs	3,208,000	3,812,000
Plus: Projected escalation: 1967-70	321,000	
1970-73		713,000 1/
Total architectural, engineering, and administrative cost projected to completion of project	$ 3,529,000	$ 4,525,000
GRAND TOTAL	$31,761,000	$40,719,000
Add: 10 per cent contingency	3,176,100	4,072,000
Total Estimated Cost of Project	$34,937,100	$44,791,000

33-798 O—69——3

1/ Estimated escalation costs during the 4-year period, 1970 through 1973, totaling $6,414,000, were determined by first distributing the 1969 total direct building, furnishings, architectural, engineering, and administrative costs of $34,305,000 ($29,287,000 + $1,206,000 + $3,812,000) into annual expenditures and then applying cumulative escalation percentages to each annual amount. Expenditures and escalations are based on the following:

Year	Expenditure	Escalation	Amount of Escalation
1970	20% of $34,305,000	7% of Expenditure	$ 480,500
1971	30% of $34,305,000	14.49% of Expenditure	1,491,000
1972	30% of $34,305,000	22.5% of Expenditure	2,315,500
1973	20% of $34,305,000	31% of Expenditure	2,127,000
	Total 4-year escalation, 1970-1973.....		$6,414,000

APPROVAL OF PLAN 2

This plan has been approved unanimously by the Commission for the Extension of the Capitol, created by the Congress in Public Law 242, 84th Congress, to direct "the extension, reconstruction, and replacement of the central portion of the United States Capitol...".

The Congress itself has approved the plan to the extent that it appropriated $300,000 for preparation of preliminary plans, a model, and estimates of cost.

The plan has been developed and approved by an outstanding group of professional, private-practicing, non-governmental, associate architects who also planned the highly pleasing and successful east front extension.

Estimate 1970
#26 - Ext. of Capitol

The advisory architects, consisting of two Fellows of the American Institute of Architects and an outstanding Landscape Architect who for many years served as the Chairman of the Fine Arts Commission, strongly endorsed the plan and commented in part:

> "In our judgment the Associate Architects have prepared an eminently successful solution to a difficult problem. We have had a part in the development of the studies of this elevation and we agree that the enlarged central element with the handsome pediment will provide for the Nation's Capitol a degree of distinction and a compositional relation to the great dome which, up to now, it has lacked. The relationship between the several elements, the wings, the central part and the dome, will be magnificent.
>
> "From its beginnings the Capitol has been an imposing structure. None of the departures from the original design have interfered with the simplicity and dignity of the building, nor will the changes as now proposed. Those persons most appreciate the Capitol who familiarize themselves with the adaptations which the growth of this Country have brought about. The enlarged Capitol will enable a correction in the proportion of the building to the dome, and greater compatibility with the impending program for the Mall and surrounding areas."

The Thompson and Lichtner Company, Inc., outside engineering consultants engaged to make a study of the conditions of the west front and to recommend required remedial measures, recommended a properly designed and constructed extension, after considering all other alternatives.

Plan 2 has the strong approval of the Architect of the Capitol and his staff. The Architect of the Capitol is a professional engineer with many years experience in stone

masonry, as a construction contractor, an engineer, and a stonemason. The Assistant Architect is a professional Architect, a long term member of the American Institute of Architects, with outstanding experience in the restoration and preservation of old buildings (including an eight-year directorship of architecture at Colonial Williamsburg). The Second Assistant Architect is a professional engineer, an expert in structural-mechanical-electrical engineering. On our staff is also one of the foremost stone experts of the Country.

Plan 2 has been strongly approved by the American Registered Architects, an organization of professional architects, both by their committee who investigated the plan and the building and by the ARA in convention. The founder and past president of this organization has been so impressed with the project that he has carried on a wide educational program to alert our citizens and those in authority to the dangers of delay and the excellence of Plan 2.

Plan 2, as far as the design is concerned, has been approved by a spokesman for the American Institute of Architects before your committee (F.Y. 1968 hearings) or at least he said "We have no criticism of design for the extension of the west front". In Official Memorandum No. 178 of the AIA in 1958 it is stated:

> "It is believed that the space requirements could be better filled--at far less cost--by leaving the east front alone and instead, developing a proposed scheme for expansion on the west side of the building."

As stated previously in the hearings, members of the American Institute of Architects who led the AIA's opposition against the Extension of the East Front, stated in 1958 at the AIA convention:

> "The real needs of Congress could in any event be cared for by extending the building to the west, where there is no great architectural masterpiece to be preserved." (Emphasis supplied)

At a hearing before the Senate Committee on Public Works in 1958, an AIA member leading opposition to the east front extension stated:

> "We have no reason to worry over architectural changes of this sort in the less masterly Capitol west front, and the concern of architects at this point can be dismissed into the realm of rhetoric."

Plan 2 has been examined by a delegation from the American Society of Landscape Architects who made suggestions which we accepted. That Society then agreed to take no position on the extension project

> "***in view of the fact that it has been in preparation for years with private and public knowledge and approval, and is in the hands of eminently qualified professional persons of high standing in their own organizations."

The only architectural society to our knowledge to disapprove of proceeding with the current extension plan is the American Institute of Architects--at least that is said to be the position

of the leadership of the Institute. Such a position, of course, amounts to a complete reversal of their 1958 position when their representatives and spokesmen urged upon the Congress again and again the expansion on the west side of the Capitol. Their position in 1958 has been mentioned heretofore in these justifications and rather thoroughly documented in previous appropriation hearings.

Their current opposition is said to be based on a report of their "task force", belatedly appointed after the AIA leadership reversed its previous position and came out against a west front extension. The task force was led by one of their chief opponents of westward extension who had already published his views in an article "Capitol Punishment". The task force spent a part of one day in our office, going over the plans and examining the building. It rendered the expected decision -- a confirmation of the previously taken AIA leadership position. A copy of our comments on this task force report is appended hereto.

With respect to the current AIA leadership opposition, we should mention again that they also opposed the east front extension, but Congress nevertheless proceeded with the project. It now should be obvious who was right and who was wrong.

LEGISLATION GOVERNING EXTENSION OF THE CAPITOL PROJECT

Public Law 242, 84th Congress, as amended by Public Law 406, 84th Congress and by Public Law 88-248, 88th Congress

"Extension of the Capitol: The Architect of the Capitol is hereby authorized, under the direction of a Commission for Extension of the United States Capitol, to be composed of the President of the Senate, the Speaker of the House of Representatives, the minority leader of the Senate, the minority leader of the House of Representatives, and the Architect of the Capitol, to provide for the extension, reconstruction, and replacement of the central portion of the United States Capitol in substantial accordance with scheme B of the architectural plan submitted by a joint commission of Congress and reported to Congress on March 3, 1905 (House Document numbered 385, Fifty-eighth Congress), but with such modifications and additions, including provisions for restaurant facilities, and such other facilities in the Capitol Grounds, together with utilities, equipment, approaches, and other appurtenant or necessary items, as may be approved by said Commission, and for such purposes there is hereby appropriated $5,000,000, to remain available until expended, and there are hereby authorized to be appropriated such additional sums as may be determined by said Commission to be required for the purposes hereof: Provided, That the Architect of the Capitol under the direction of said Commission and

without regard to the provisions of section 3709 of the Revised Statutes, as amended, is authorized to enter into contracts and to make such other expenditures, including expenditures for personal and other services, as may be necessary to carry out the purposes of this Act and, prior to any appropriations being provided for extension, reconstruction, and replacement of the west central portion of the United States Capitol, to obligate such sums as may be necessary for the employment of nongovernmental engineering and other necessary services and for test borings and other necessary incidental items required to make a survey, study and examination of the structural condition of such west central portion, to make reports of findings, and to make recommendations with respect to such remedial measures as may be deemed necessary, including the feasibility of corrective measures in conjunction with extension of such west central portion."

AUTHORIZATION UNDER AFORECITED LEGISLATION FOR EXTENSION OF THE WEST CENTRAL FRONT OF CAPITOL

The 1905 architectural plan included in House Document 385, 58th Congress, known as scheme B, referred to in the aforecited legislation, provided for extension of the east-central section of the Capitol 32 feet 6 inches and construction of the extension in marble; refacing the

west-central section of the Capitol in marble, in order to provide a durable construction for that portion of the building; reconstruction of the west front steps in marble; and sculptural treatment of the east pediment of the House wing of the Capitol.

Public Law 242, 84th Congress, as amended by Public Law 406, 84th Congress, vests the Commission for the Extension of the United States Capitol with the authority to carry out this plan, with such modifications and additions as the Commission may approve. Acting under this authority, and based upon findings and recommendations of private practicing architects and engineers, including an internationally recognized engineer, the Commission has approved the providing of a durable construction for the west central front of the Capitol through extension and reconstruction of the west-central section of the Capitol in marble, instead of through refacing this section with marble, and has also approved preliminary plans for such extension and reconstruction. By law, the Architect of the Capitol is required to perform his duties as directed by the Commission.

PARTS (SHOWN IN UNDERSCORE) OF PUBLIC LAW 242, 84TH CONGRESS, AND 406, 84TH CONGRESS WHICH CONSTITUTE STATUTORY AUTHORITY FOR PROJECT

"Extension of the Capitol: The Architect of the Capitol is hereby authorized. under the direction of a Commission for Extension of the

United States Capitol, to be composed of the President of the Senate, the Speaker of the House of Representatives, the minority leader of the Senate, the minority leader of the House of Representatives, and the Architect of the Capitol, to provide for the extension, reconstruction,and replacement of the central portion of the United States Capitol in substantial accordance with scheme B of the architectural plan submitted by a joint commission of Congress and reported to Congress on March 3, 1905 (House Document numbered 385, Fifty-eighth Congress), but with such modifications and additions, including provisions for restaurant facilities, and such other facilities in the Capitol Grounds, together with utilities, equipment, approaches, and other appurtenant or necessary items, as may be approved by said Commission, and for such purposes there is hereby appropriated $5,000,000, to remain available until expended, and there are hereby authorized to be appropriated such additional sums as may be determined by said Commission to be required for the purposes hereof: ***"

Estimate 1970
#34 - Ext. of Cap.

LEGISLATIVE HISTORY AND CHRONOLOGY OF EVENTS LEADING TO DEVELOPMENT OF PLAN 2 FOR EXTENDING THE WEST FRONT

Authorization:

Public Law 242, 84th Congress, approved August 5, 1955, is the original basic statute. It authorized the "extension, reconstruction, and replacement of the central portion" of the Capitol, based on a 1905 architectural plan to be carried forward in accordance with such modifications and additions as approved by the Commission for Extension of the United States Capitol. It created a joint congressional commission to direct the Architect of the Capitol in carrying out the project.

Public Law 406, 84th Congress, approved February 14, 1956, amended Public Law 242 - a technical amendment.

Public Law 87-14, approved March 31, 1961, made the appropriation "Extension of the Capitol" available for furniture and furnishings.

Public Law 88-248, approved December 30, 1963, amended Public Law 242, as amended, by deleting from the basic act the authority "to obligate the additional sums herein authorized prior to the actual appropriation thereof" and by substituting in lieu thereof:

> "and, prior to any appropriations being provided for extension, reconstruction, and replacement of the west central portion of the United States Capitol, to obligate such sums as may be necessary for the employment of nongovernmental engineering and other necessary services and for test borings and other necessary incidental items required to make a survey, study and examination of the structural condition of such west central portion, to make reports of findings, and to make recommendations with respect to such remedial measures as may be deemed necessary including the feasibility of corrective measures in conjunction with the extension of such west central portion."

The complete authorization act, as amended, is set forth in the preceding section of this report.

Engineering Study

As a result of the changes made by Public Law 88-248 and pursuant to direction of the Commission, and in line with the thinking of the Appropriations Committees, the Architect of the Capitol entered into a contract, March 13, 1964, with The Thompson and Lichtner Company, Inc. of Brookline, Massachusetts, for a fresh engineering survey of the conditions of the west central front, an outstanding firm with no previous connection with the project. Their report was received in November, 1964 and is summarized elsewhere in these justifications.

Public Hearing by Commission

A public hearing was held by the Commission on June 24, 1965, with Dr. Miles N. Clair, President of The Thompson and Lichtner Co., Inc., testifying as to the dangerous conditions requiring immediate action and the plan for permanent corrective action.

Decision to Develop Preliminary Plans and Cost Estimates

At the close of the hearing, the Commission agreed unanimously, that the Architect of the Capitol be authorized and directed to submit to the Appropriations Committees of the House and Senate request for funds for preparation of preliminary plans and estimates of cost for the extension in marble of the West Central front of the Capitol, based on the findings in The Thompson & Lichtner report.

Wood Braces Installed in 1965

As a result of The Thompson and Lichtner study and recommendations, the most obviously dangerous portions of the West front were shored with heavy wood timbers in 1965 as a temporary expedient.

Funds for Preliminary Plans and Cost Estimates

In September 1965, the Architect of the Capitol, pursuant to the direction of the Commission, appeared before the House Appropriations Committee and requested $300,000 for preliminary plans, cost estimates, and a model (see pages 334 through 363 of Part I of printed hearings on the Supplemental Appropriation Act, 1966). The $300,000 was included by the House in the bill.

In October 1965, the Architect of the Capitol appeared before the Senate Appropriations Committee and requested the $300,000 planning money (see pages 379 to 404 of the printed Senate hearings on the Supplemental Appropriations for 1966). The Senate deleted the $300,000 from the bill.

The $300,000 was restored in conference between the House and Senate conferees. The bill carrying these funds was approved October 31, 1965 by the President.

Architects Directed to Proceed with Preliminary Plans

In December 1965, the Architect of the Capitol, upon direction of the Commission, ordered the Associate and Advisory Architects for the extension of the Capitol Project to proceed with the preliminary plans and estimates of cost. The first stage of their work was completed in May 1966, and a progress report and study model were furnished.

Commission's Consideration and Approval of Plan 2

The Commission in charge held a meeting June 17, 1966, for the purpose of considering the report of the architects. At this meeting the architects reviewed with the Commission the basic historic, architectural, and engineering information relating to the West Front and demonstrated three basic plans by use of a study model and drawings. The Commission approved Plan 2 and directed that this plan be completed and perfected; that the final scale model be prepared for exhibition to Members of Congress and the public; and that the Architect of the Capitol be directed to seek necessary funds for proceeding with the project.

Model Placed on Display

In November 1966, the scale model of the West Front extension as approved by the Commission was placed on public display in Statuary Hall in the Capitol. In January 1967, the Speaker sent a letter to all Members of the Senate and House calling attention to the model and asking each Member to examine the model. The model has been on continuous display since 1966.

Estimate 1970
#38 - Ext. of Cap.

Delay in Requesting Construction Funds

During the Summer of 1966, when the Legislative Branch Appropriation Bill for 1967 was under consideration, although no funds were provided in the bill for the West front extension, the Senate amended the bill to provide:

> "Provided, That no part of any appropriation contained in this Act shall be used for administrative or any other expenses in connection with the plans referred to as Schemes 1, 2 and 3 for the Extension of the West Central Front of the Capitol."

This amendment was deleted by the Senate and House conferees on the bill and the following statement appears in the conference report dated August 15, 1966:

> "There are no funds in the bill for the west front extension project, nor is there any authority to proceed with construction contracts, or even detailed plans and specifications. The work can proceed only if and when the Congress should appropriate the money for the work in a future bill.
>
> "$300,000 was, however, appropriated by the Congress last year for preparation of preliminary plans and estimates of cost, including a model, and incidental expenses looking to extension of the west central front. Most of that fund is already contracted. While the associate architects engaged for this purpose completed the first stage study and plans earlier this year, from which Schemes 1, 2, and 3 were developed, and for which a study model (of Scheme 2) was made, more time is necessarily required for perfection of plans and drawings and preparation of a full scale model for the scheme (No. 2) selected by the special Extension Commission. At its meeting with the architects in June, the Commission directed the Architect to get the full-scale model ready for exhibition to Members of Congress and the public generally.

> "A full-scale model showing the entire Capitol building--both East and West Fronts--should be of great, almost inestimable visual-aid value in helping Members, the press, and the public generally form sound opinions about the appearance of the building if extended and the effect of the particular proposals in Scheme 2 on the architectural features of the present West Front. But the conferees understand that the full-scale model will not be ready to place on display until about mid-November.
>
> "In the circumstances, then, it would be premature, and illogical, to consider any further appropriations for the West Front project at this session."

Completed Preliminary Plans Sent to the Congress

In May 1967, the full report and recommendations of the architects relating to the authorized preliminary plans and estimates of cost, were completed and sent by the Architect of the Capitol to Speaker John W. McCormack, Chairman of the Commission for Extension of the United States Capitol and other Members of the Commission. This report, with illustrations, was printed and sent by Speaker McCormack to all Members of the House and Senate with his letter of June 21, 1967.

Additional Wood Bracing in 1968

Late in 1967 additional dangerous sagging and cracking in certain sections of the west side of the building were observed. With approval of the Commission, the Architect of the Capitol sought and the Congress granted $135,000 for additional temporary wood shoring and for repointing, filling cracks, and painting the west central front. This work was finished in the Summer of 1968.

Delay in Requesting Construction Funds

The preliminary plans and estimates of cost for the extension of the West central front were completed and published in 1967. The Commission did not direct the Architect of the Capitol to request funds for the contract plans and construction from 1967 to 1969. It is understood that the Commission's reluctance was due to the conflict in Viet Nam and the resulting heavy stresses on the national budget.

Latest Action of the Commission

Late in July, 1969, Chairman McCormack after discussing the seriousness of further delay with fellow Commission Members and Members of the House Appropriations Committee, requested that other Members of the Commission join him in approving planning funds for extending the west central front in accord with the previously approved Plan 2. All Members of the Commission agreed to direct the Architect of the Capitol to seek planning funds, in the amount of $2,000,000 at this time. The opinion of the Commission was unanimous, and was reached during the first week of August, 1969.

Letter from Chairman McCormack to Appropriations Committees

Upon receipt of unanimous approval of all Members of the Commission, Chairman McCormack directed a letter on August 8, 1969, to Chairman Andrews of the Legislative Subcommittee,

33-798 O—69——4

Committee on Appropriations, House of Representatives, pointing out the urgent need to proceed with planning the extension, advising of the Commission's decision, and expressing the hope that this request could be heard in connection with the then current hearings on the Legislative Branch Appropriation Bill, 1970.

After the Legislative Subcommittee indicated informally to the Speaker that a hearing would probably be scheduled on the item early in September after the recess, the Speaker sent similar letters of recommendation to Chairman Russell of the Senate Committee on Appropriations and Chairman Montoya of the Legislative Subcommittee.

Copies of the Speaker's letters to Chairman Andrews and Chairman Montoya are contained in the appendix to these justifications.

COMMENTS ON "RESTORATION" OF THE WEST CENTRAL FRONT

In past hearings before your committee and in other sections of this report, we have indicated the reasons why the so-called "restoration" of the Capitol's west central front is not a feasible, economical, or thoughtful proposition. We shall once again touch the highlights.

These sections of the building are 150 to more than 170 years old. The exterior is of soft, local sandstone of a generally poor quality. There are no expansion joints in the structure, so when pressures have been put on the walls by fires, an explosion, settlement,

expansion and contraction, the walls have cracked -- in many cases from top to bottom -- or bulged out of alinement.

The most serious cracking has required shoring with wood timbers during the last 4 or 5 years, in order to prevent collapse.

At the present time, there is no longer one exterior west wall, but rather a series of sections of "walls" created by the extensive cracking. Stone has broken off and fallen due to pressure and movement. Emergency measures have had to be taken to keep pedestrians away from the sides of the walls. Stones have become displaced in many locations. Keystones have settled leaving voids which have had to be filled with cement. Engineering studies have shown that there are many voids throughout the interior of the walls, due to poor workmanship many years ago and movement since that time.

The foundations of the walls in some prominent locations are inadequate.

The walls are made up of an exterior of sandstone, an interior of stone rubble and brick, and a central core of loose stone rubble. Each stone in each vertical "layer" of the wall has a different expansion and contraction ratio, thus further complicating the provision for anything like a cohesive "whole". The building is, as you know of wall-bearing arched floor construction, and these are the walls that carry the thrust from the arches which support the interior loads.

This, then, is a brief description of the walls the restorationists would have us preserve as "a textbook of architecture."

Dr. Clair of The Thompson and Lichtner Company, who did the engineering studies on the condition of the west front and the remedial action required, as pointed out previously in this report and in prior hearings, gave careful consideration to many possibilities for correcting the conditions of the west walls and concluded in his 1964 report that a properly designed extension would provide the desired lateral support for the west central portion and would be the least hazardous and cause the least interference to continued Congressional use of the building during the construction period. He confirmed that position in his recent report to the Architect of the Capitol. In his 1964 report, quoted previously in this justification, Dr. Clair spelled out his reason for rejecting such possibilities as

1. Retention and repair of the existing walls.
2. Refacing the existing walls.
3. Removal of the outside sandstone completely and replacement by high quality marble and granite.
4. Removal of the entire wall and foundation and replacement by reinforced concrete with a facing of high quality marble and granite.

This is to say that Dr. Clair, an expert in the field of structural engineering related especially to old buildings in this country and abroad, did not recommend any of the "cosmetic" treatments recommended by some who have not given thorough study to the building and who do not shoulder the responsibility for the proper care, preservation and use of the National Capitol. His conclusions and recommendations are shared by the Capitol Commission in charge of

the project, the Architect of the Capitol and his professional staff, and every private-practicing architect and engineer who has been engaged to study the project and advise the Commission and the Architect of the Capitol.

For the reasons recited herein and previously to your committee, I strongly recommend against any further action toward so-called "restoration" of the Capitol's west front for the following cogent reasons:

1. Restoration does not provide a permanent solution. Whatever the form of restoration or the method, it would result in a makeshift job.

2. The appearance, if piecemeal repairs are made, would be more objectionable than the present painted surface.

3. If refaced, the cracks and bulges would again appear after a few years.

4. If the walls are rebuilt completely, the danger and risks would be too great.

5. The whole west central portion of the building, between the House and Senate Wings, including some interior rooms and spaces, would have to be vacated by the Congress over a long period of time.

6. The costs of restoration were estimated several years ago to be between $10,000,000 and $50,000,000. They have escalated since that time. Furthermore, a true cost figure is impossible to obtain. A leading advocate of restoration has stated publicly that restoration could exceed the cost of the proposed extension.

7. There are so many uncertainties involved in restoration or rebuilding in place, the work would have to be done under a cost-plus contract, with leeway as to the ultimate total cost.

8. No space would be gained in the Capitol for the vital operations of the Congress and for the use of the public.

Mr. Campioli, Assistant Architect of the Capitol, is prepared to elaborate on these points.

Estimate 1970
#45 - Ext. of Cap.

CONSTRUCTION, CHANGES AND ADDITIONS, CAPITOL BUILDING

United States Capitol

First Unit

The first unit constructed was the old North Wing, now commonly referred to as the old Supreme Court section of the Capitol. The cornerstone was laid September 18, 1793. This wing was completed and occupied by the Senate from 1800 to 1859 when the Senate moved to its present Chamber. It was also occupied by the House from 1800-1801 and from 1804-1807. It was, in addition, occupied by the Supreme Court from 1801 to 1935 when the Court moved to its present building and by the Library of Congress from 1800-1824.

The Senate originally met in a large room, two-stories in height, from 1800-1808. In 1808-1809 this room was divided into two rooms, one above the other. The Senate occupied the upper room, on the second or principal floor, from 1810 to 1859 as its Chamber. The Supreme Court, which had been provided with quarters elsewhere in the North Wing from 1801 to 1809, occupied the lower room, on the first or ground floor as its Chambers from 1810 to 1860.

Temporary Unit

On the present site of Statuary Hall, a temporary structure was erected, known as the "Oven", connected by an enclosed passageway to the North Wing, was occupied by the House from 1801 to 1804 when the temporary structure was removed from the site.

Second Unit

The old South Wing, now known as the Statuary Hall section, was the second unit to be constructed. It was completed and occupied by the House from 1807 to 1857. The House Chamber was located in the room now known as Statuary Hall.

Interrupted Occupancy

Due to the burning of the Capitol by the British in August 1814, the Senate and House, Supreme Court, and Library had to occupy other quarters outside the Capitol until 1819. During the period 1815-1819, the Old North and South Wings were reconstructed and restored.

Third Unit

The central section of the Capitol, between the old North and South Wings, was constructed during the period 1818-1829. The west side of the central section was occupied by the Library of Congress from 1824 to 1897 when the Library moved to its own building. The quarters in the Capitol vacated by the Library in 1897, were reconstructed into office and committee space.

Fourth Units

The present Senate and House Wings, containing the present Senate and House Chambers, were added during the period 1851-1859. The House has occupied the House Wing from 1857 to the present day. The Senate has occupied the Senate Wing from 1859 to the present day. During the period 1856 to 1865, the old low wooden dome over the original central section was replaced with the present 4,500-ton cast-iron Dome.

Interrupted Occupancy

Following a fire in 1851, the west central section occupied by the Library was reconstructed. After an explosion under the old Supreme Court Chamber in 1898, the old North Wing was restored through repair and reconstruction.

Fifth Unit

The terraces on the north, south, and west sides of the Capitol were added during the period 1884 to 1892.

Reconstruction Work

The old wooden roof construction over the original sections of the Capitol was replaced with steel and concrete construction in 1902. During the period 1949 to 1951, the Senate and House Chambers were completely remodelled in the manner they exist today. In addition to remodelling of the interior of the Chambers, the old cast-iron and glass skylights, which from 1857 to 1949 had served as the roofs over the two Chambers, were eliminated and replaced with new roof construction of steel and concrete covered with copper. During this period, it was necessary for the Senate and House to vacate their Chambers and occupy other quarters for three short periods.

Sixth Unit

During the period 1958 to 1962, the East Front Central Section of the Capitol was extended eastward 32-1/2 feet. The new Front is constructed of marble and is a faithful reproduction of the old sandstone front. During the period 1958 to 1969, other improvements have also been effected in the Capitol, including a major program of improvement of the lighting and wiring in the Capitol and repairs to the Dome.

CONSTRUCTION OF SENATE AND HOUSE OFFICE BUILDINGS TO PROVIDE ADDITIONAL ACCOMMODATIONS FOR THE SENATE AND HOUSE

SENATE OFFICE BUILDINGS

The first 3 wings of the Old Senate Office Building, facing Constitution Avenue, Delaware Avenue, and C Street, were completed and occupied in 1909. The fourth, or 1st Street Wing, was constructed in 1931-1933 and occupied in 1933.

The New Senate Office Building was completed and occupied in 1958.

HOUSE OFFICE BUILDINGS

The Old, or Cannon House Office Building, was completed and occupied in 1908. The New, or Longworth House Office Building, was completed and occupied in 1933. The Rayburn House Office Building was completed and occupied in 1965.

EXPENDITURES AND OBLIGATIONS - WEST CENTRAL FRONT OF CAPITOL - 1964-1969

Surveys, Studies, Preliminary Plans and Estimates and Emergency Repairs, West Central Front, 1964-1969

Engineering study of condition of West Front - 1964		
Engineering services (consultant)	$ 30,000	
Exploratory work (test pits, soil borings, and cores of wall construction)	71,393	
Total	$101,393	
Emergency repairs - 1965		
Engineering services (consultant)	$ 3,500	
Shoring and bracing	26,573	
Total	$ 30,073	
Preliminary plans and estimates of cost for Extension of the West Central Front, in accordance with Plan 2 approved by the Commission in charge of project 1965-1967		
Architect-engineer fees	$240,000	
Advisory architects' fees	4,500	
Model of Capitol (as it would appear, extended pursuant to Plan 2)	21,024	
Total	$265,524	
Administrative and Miscellaneous Expenses	$ 50,845	
Total 1964-1967		$ 447,835
Emergency repairs 1968-1969		
Engineering services (consultant)	$ 10,000	
Engineering (surveyor) services, to measure and record movements of building	7,273	
Additional emergency shoring & bracing for old Senate & House Wings at basement level, and for unsupported architrave stones of West Central Portico not supported by emergency shoring in 1964 or 1965; also repointing joints, filling cracks, and repainting sandstone masonry	70,163	
Administrative and Miscellaneous	26,243	
Total 1968-1969		$ 113,679
TOTAL, WEST CENTRAL FRONT 1964-1969		$ 561,514

The Speaker's Rooms
U.S. House of Representatives
Washington, D.C.

August 8, 1969

Honorable George W. Andrews, Chairman
Subcommittee on Legislative Appropriations
Committee on Appropriations
House of Representatives
Washington, D. C.

Dear Mr. Chairman:

As you are aware, the Commission for the Extension of the United States Capitol, of which I am Chairman, has had under consideration for several years, the remedial measures required on the west central front of the Capitol, which is in a dangerous state of deterioration.

Exhaustive studies by competent architects and engineers and other professional advisors have led them and the Commission to the conclusion that the west central front should be extended in much the same manner as the east central front was extended 1958-1961.

The Commission considered three plans to accomplish this purpose and approved the plan known as Plan 2. The Congress provided funds for the full development of preliminary plans and cost estimates and the preparation of a suitable model showing the appearance of the Capitol after completion of the extension work based on Plan 2.

The model was completed and placed, at my direction, on display in Statuary Hall of the Capitol in November, 1966, where it could be inspected and observed by the Members, the press, and the public.

The preliminary plans and cost estimates were also completed and sent by me to each Member of the House and Senate for their study and information.

Carrying out Plan 2 will accomplish the following:

1. Make the west front safe, sound, durable, and beautiful for the foreseeable future.

2. Provide greatly needed working space for the Congress, including some large committee hearing rooms, additional elevators, and escalators, as well as space for the public.

3. Provide service facilities for trucks, etc., on the west side underground and out of sight, which will do away with the rather disgraceful conditions we and the public observe daily now when deliveries are made and trash and garbage are removed "at our front door steps" via the East Plaza.

4. Strengthen the central front architecturally, while preserving the essential character of the original architecture.

The Members of the Commission have recently given further consideration to the urgency of this project and have agreed unanimously that the Architect of the Capitol be directed to request $2,000,000 in planning funds at this time. About 18 months time will be required for the preparation of contract plans and specifications, so if planning funds are granted this summer they should be completed late next year.

It would be helpful in moving this project along quickly if your subcommittee could see its way clear to recommend inclusion of the amount

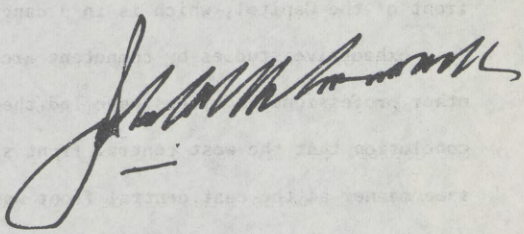
in the pending Legislation Branch Appropriation Bill.

I realize well, of course, that members of your committee have given much study and thought to this project over a period of years, during your hearings and other proceedings, have received an abundance of testimony, and are familiar with the need for pressing forward with the work if the Capitol is to remain intact and to retain its former dignity and appreciation in the eyes of our people.

On behalf of the other Members of the Commission and myself, I urge the careful and favorable consideration by your committee of the request the Architect will submit for planning funds for this purpose pursuant to the Commission's directive.

With best regards, I am

Sincerely yours,



The Speaker's Rooms
U. S. House of Representatives
Washington, D. C.

August 14, 1969

Honorable Joseph M. Montoya, Chairman
Legislative Subcommittee
Committee on Appropriations
United States Senate
Washington, D. C.

Dear Mr. Chairman:

As you are aware, the Commission for the Extension of the United States Capitol, of which I am Chairman, has had under consideration for several years, the remedial measures required on the west central front of the Capitol, which is in a dangerous state of deterioration.

Exhaustive studies by competent architects and engineers and other professional advisors have led them and the Commission to the conclusion that the west central front should be extended in much the same manner as the east central front was extended 1958-1961.

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The Members of the Commission have recently given further consideration to the urgency of this project and have agreed unanimously that the Architect of the Capitol be directed to request $2,000,000 in planning funds at this time. About 18 months time will be required for the preparation of contract plans and specifications, so if planning funds are granted this summer they should be completed late next year.

I have taken this matter up with the House Appropriations Committee and was advised that the Legislative Subcommittee plans to hold a hearing on the item a few days after the conclusion of the recess.

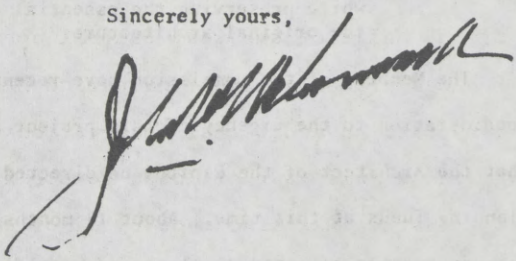
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On behalf of the other Members of the Commission and myself, I urge the careful and favorable consideration by your committee of the request the Architect will submit for planning funds for this purpose pursuant to the Commission's directive.

I am sending a similar letter also to Chairman Russell.

With best regards, I am

Sincerely yours,



THE THOMPSON & LICHTNER CO., INC.
Engineers
8 ALTON PLACE, BROOKLINE, MASS. 02146

Telephone 232-2105
Area Code 617

August 20, 1969

Mr. J. George Stewart
Architect of the Capitol
Washington, D. C.

Dear Mr. Stewart:

We are sending you under separate cover details of our analyses of the measurements by Copeland and Watson, Land Surveyors of the movement vertically and horizontally of the walls of the west central portion of the Capitol. The measurements cover the period from August 1968 to April 1969 with an additional observation to be made in August 1969 giving a full year of load, temperature and weather effect. Examination was also made by us of the walls and the progressive formation of cracks noted. The measurements and observations were made following the recommendations of our report of November 1, 1964.

The data indicates that there is movement horizontally and vertically of most of the walls. The probable maximum settlement for one year will be one quarter inch which is a cause for concern in a structure of this type and age and confirms the need for corrective action recommended by our report of November 1, 1964.

The original posting and shoring was developed based on the assumption that a decision would be made so that corrective action would be started within five years. In our opinion the safety of the structure requires that you proceed without further delay with plans to permanently strengthen the foundations and walls or to relieve them of part of their loading and to install such additional temporary shoring, posting and bracing as is necessary until the work can be done. The observations of the movement of the structure should be continued.

Sincerely,

Miles N. Clair, President
THE THOMPSON & LICHTNER CO., INC.

MNC:j

THE THOMPSON & LICHTNER CO., INC.

Engineers

8 Alton Place, Brookline, Mass.

C
O
P
Y

November 1, 1964

The Honorable J. George Stewart
Architect of the Capitol
United States Capitol
Washington, D. C.

Dear Mr. Stewart:

We present herewith in five volumes, a Report on the Structural Condition of the West Central Portion of the United States Capitol, Extension of the Capitol Project, in fulfillment of Contract No. ACbr-540 of March 13, 1964, which included under paragraph 4, submission of a report of findings to the Architect of the Capitol upon completion of examinations, analyses, and studies, together with recommendations with respect to such remedial measures as may be deemed necessary, including recommendations as to (1) whether the existing wall, if found deficient, can be repaired in its present condition, (2) whether the existing wall can be refaced with marble in its present condition, (3) whether remedial action requires extension of the west central front and its reconstruction in marble, or (4) whether any other means of preservation are deemed feasible and advisable.

Plans and Specifications for Exploratory Work, including test pits, soil borings and cores of walls were prepared under date of May 15, 1964 with Invitation for a Proposal of June 10, 1964. The J. F. Fitzgerald Construction Co., Inc. of Canton, Massachusetts, was awarded the Contract

33-798 O—69——5

No. ACbr-545 for this work on June 29, 1964. Observations of the exploratory work, consultation and advice, examination, study, analyses and tests were performed by representatives of The Thompson & Lichtner Co., Inc. resident at the site or in Brookline, Massachusetts.

The purpose of this study being primarily to determine the structural condition of the exterior west wall of the Central or original portion of the Capitol, information was obtained on the quality of the facing sandstone, the backup fieldstone, the mortar used in laying the stone, the thickness, the workmanship, and the stresses in the wall. As the stability of the wall is dependent on the foundations and supporting soils, the Report on the Foundation Investigation of the Capitol of May 1957 was examined in detail and such additional borings, test pits and tests were made as appeared necessary. The interior of the West Portion of the Capitol was examined to determine whether there was evidence of structural distress and, in particular, if such conditions were affecting the exterior walls. The use to which an old structure, such as the Capitol has been subjected, and the conditions under which it was constructed required study of its history in evaluating the structural condition, particularly since much of the construction is covered by ornamentation and cannot be examined.

The facing stone is a white to light gray sandstone obtained locally and known as Aquia Creek sandstone. The color of much of this stone is also light brown gray or buff, depending on the iron content. Pieces of stone were removed and cores cut from the walls at sufficient locations to evaluate the quality of the walls. These samples were

examined in the field and laboratory. Analysis shows the stone is composed of quartz grains cemented together largely by silica and therefore it is inert relative to compounds usually found in the atmosphere. Tests for compressive strength and absorption show that it is relatively weak and absorptive compared to sandstone normally used for exposed building stone. Observations of the disintegration of unpainted areas of the stone, such as the Bulfinch gate posts on Constitution Avenue at 7th and 15th Streets, confirm the low quality as related to resistance to weathering. Spalled areas are found throughout the wall surfaces and in the ornamentation, particularly of the entablature at the top of the building. There were also numerous patched areas and areas of replacement of stone. Spalling in certain areas probably is partly the result of the burning of the Capitol by the British in 1814.

The major portion of the stone shows softening and discoloration to a depth of 3/16" and no other signs of weathering despite the inferior quality of the stone, because it has been covered with paint. Painting started about 1822 and the wall was painted at about 8-year intervals thereafter as evidenced by the thickness of paint on the stone at present. Although the painting has been effective as protection, it has affected the architectural detail and quality which is found objectionable by those interested in the appearance. The removal of the paint should involve the removal of the affected 3/16" of stone behind and this would give rise to a similar objection since such removal of the paint could

not be made without changing the texture as well as the dimensions. The stone would then have to be repainted or treated with silicone at not over 5-year intervals to protect it from the weather.

Although the stone does not show evidence of major weathering because of the paint, there is a serious amount of cracking and dislocation of stones. The stones are found to have been carefully cut on the face and sides to uniform dimensions and plane, but rough cut in the back and the rear portion of the sides. The resulting ashlar dimensional sandstone masonry is of good line and surface and of excellent appearance. Voids of varying widths were found, however, behind almost all facing stone and the fieldstone or brick backup, evidencing movement of the two resulting from temperature and moisture, as well as settlement and load adjustment effects. The fact that the fieldstone is of granite gneiss means that is has a thermal coefficient of expansion of about 70% of that of the sandstone. The sandstone will have a higher or lower temperature than the backup and the differential movement in 100 feet could be 1/4 of an inch or more. There is no provision for expansion or contraction and, as the joints of the dimensional stone are very small, expansion could cause the poorly backed ashlar to bulge out and contraction would open up the joints causing cracks to appear. Water getting into the cracks and freezing would further open the cracks and cause heaving out of the wall. The situation is aggravated by the fact that in many locations voids of several inches in width are found in back of the ashlar which had not been filled in during the laying of the wall. The areas of the wall at the basement floor level above the

terraces on the Old House and Old Senate Wings which had veen veneered at a later date are in a dangerous condition. Bonding was done in those areas by the use of metal ties which have corroded and broken. Apparently the space between the veneer and the backup was not filled with mortar as called for by good practice. The walls are leaning and must be replaced shortly or they will fall.

The character of the cracking in the walls shows that an important factor is also settlement. Shrinkage cracks normally will appear at the edges of openings, such as windows and door frames, but would not cause cracking and dropping of lintels. Keystones will drop due to excessive loading or release of the support of the abutment stones of the arch. There must have been differential settlement of the foundations through the years causing cracking of the walls as investigation of the stresses due to loads does not indicate overloading of the arches or lintels as a cause.

The backup of the ashlar sandstone is brick masonry with lime mortar in the Old Senate Wing and elsewhere it is fieldstone or granite gneiss rubble with lime mortar. The stone is of good strength; the workmanship varies but, in general, is not of good quality containing many voids. The masons laid a reasonably good face in back of the sandstone and a poorer inside face, but were generally very careless about the interior of the wall which appeared to be constructed in some cases by dumping the stone in little or no mortar as a bed. The cores taken through this masonry and examination of the holes by means of a boroscope disclosed not only voids, but also stone and brick, providing further evidence of settlement.

Cracking of the walls can also result from shrinkage of mortar and because of the low strength of lime mortar, adjustment of the stone to solid bearing during the early life of the wall. Laboratory tests show that the brick and stone were of acceptable strength. The lime mortar was poorly mixed in many cases, and in one case the lime shells from which the lime was made were found in the mortar. The mortar is of such quality that it can only be classified as generally weak.

The structure, except for the exterior walls, has not been subjected to weathering and is not in a hazardous condition. Certain areas of the exterior walls are now in a dangerous condition and the entire walls in a very few years will be in a similar condition unless proper corrective measures are taken.

The structure represents a high quality of engineering for the materials, manpower and construction facilities available at the time of construction. The use of the local sandstone was probably dictated by time limitations and cost. The poor workmanship on the walls was undoubtedly the lack of good mechanics and the quality of inspection.

The conclusions and recommendations are summarized in the following:

1. The workmanship on the sandstone ashlar masonry facing is generally good.

2. The workmanship on the fieldstone rubble masonry is generally inferior.

3. The workmanship on the brick masonry is generally acceptable.

4. The sandstone used for the exterior facing is an inferior material for use in a monumental structure.

5. The fieldstone used for the backup of the sandstone and for foundation walls is generally a good material.

6. The brick used for the backup of the sandstone and for interior floor and foundation arches and walls is generally a satisfactory material.

7. The mortar used is largely a lime mortar and is generally not of good quality for such mortar.

8. The masonry facings at the terrace level on the west side of both the Old Senate and Old House Wings, which were not part of the original construction, are displaced and require prompt removal and replacement with proper bonding to the backup wall. The bottom course should be of granite.

9. The entablature at the front of the Center Wing is displaced and requires prompt removal and replacement.

10. The retaining walls of the terraces at both the Old Senate and Old House Wings require reconstruction of the foundations to provide adequate frost protection.

11. The exterior walls of the West Central Portion of the Capitol are distorted and cracked, and require corrective action for safety and durability.

12. Retention and repair of the existing walls as corrective action is not recommended as it would require the hazardous removal of much of the facing so as to allow installation of ties to the backup wall, or the installation of ties through the face joints with resulting disfiguration of the structure. There would still be walls and foundations of structurally inferior construction with the walls requiring continuing protective treatment.

13. Facing of the existing walls as corrective action with durable marble and granite, leaving the sandstone in place, is not recommended because it would require additions to the present foundations and there would still remain walls and foundations of structurally inferior construction without preserving the historic architecture.

14. Removal of the sandstone completely and replacement by high quality marble and granite as corrective action is not recommended because it would be a very costly and hazardous operation and there would still remain walls and foundations of structurally inferior construction.

15. Removal of the entire wall and foundation and replacement by reinforced concrete with a facing of high quality granite for the courses at grade and high quality marble above for the face stone is not recommended because of the hazard, cost and interference with occupancy.

16. Retention of the wall as an interior wall of an extended building is recommended as the least hazardous and as causing the least interference with the occupancy of the present structure. A properly designed and constructed extension would also provide desirable lateral support for the West Central Portion of the Capitol.

17. The attic roof slab in the House Wing requires corrective action because of the extensive corrosion of the reinforcing steel.

18. Drawings should be prepared of the Capitol so that there is readily available information on the structural condition in relation to the many mechanical and electrical, and other installations which have resulted in much cutting and patching. These drawings should be kept current so that the safety of the structure as affected by changes in installations and usage can be readily checked.

19. Level readings of vertical movements and measurements of horizontal movements should be taken annually of all important elements of the Capitol so as to provide data as a basis for corrective action before cracking and failures occur.

20. Piezometer readings to check the ground water level should be made on a regular schedule and the data used to assist analysis of the settlement data.

Respectfully,

/s/ Miles N. Clair

Miles N. Clair, President
THE THOMPSON & LICHTNER CO., INC.

ARCHITECT OF THE CAPITOL
WASHINGTON, D.C.

May 4, 1967

COMMENTS ON
A REPORT ON CONDITIONS OF THE WEST FRONT OF THE CAPITOL
Dated March 24, 1967, issued in the name of
The American Institute of Architects, Washington, D. C.

Authority for report: The report is not required by any law, nor was it requested by the Congress, the Commission in Charge of the Project, or the Architect of the Capitol.

Who issued this report: It was issued in the name of the American Institute of Architects, Washington, D. C. It is based on recommendations of a *task force* appointed by the President of the A.I.A. The task force is made up of two architects from Washington, D. C.; one from Detroit; one from Delaware; and one from Massachusetts.

Basis for selection of task force: Presumably the selection was made at the discretion of the A.I.A. President. The introduction includes a statement that such task force was to be *completely objective*, but it is interesting that the membership of the task force included a leading opponent of the West Front Extension and no proponents.

What does the report represent: Although made in the name of the A.I.A., it represents essentially the same position taken by the A.I.A. leadership for the past several years. It has not been voted on at an A.I.A. convention by the delegates representing the various chapters. It represents the opinions of only a few members of the Institute. An architect usually without exception likes to make up his own mind rather than having it made up for him by someone else. At the last A.I.A. convention, a motion condemning the West Front Extension was tabled by the delegates over the strenuous objections of the A.I.A. leadership.

As recently as a few days ago we were advised that the Committee for Preservation of Historic Buildings, Philadelphia Chapter, American Institute of Architects, had agreed to a resolution strongly recommending that the Chapter support the proposed Extension of the West Front of the Capitol.

Direction to the A.I.A. Task Force: According to the *introduction* in the report, the task force was instructed to determine (1) if restoration was impractical; (2) if restoration was too expensive, and (3) whether the proposed extension plan had validity. A search of the report reveals that the task force found restoration *not infeasible.* On expense, it is stated, *The American Institute of Architects does not know what the cost of restoration would be.* Further, they make no mention of the *validity* of Plan 2 as recommended by the professional architects-engineers engaged on the job and as approved by the Commission in Charge.

Time devoted to preparation of report: In recent weeks, we have heard statements that the A.I.A. task force spent five months going over the Capitol from basement to attic. They came to the Capitol in mid-November 1966 and spent a portion of one day in the Architect's office and touring the interior and exterior of the building. This is in contrast to the time spent by our Engineer Consultant who explored this problem from March 13, 1964, to September 22, 1965, and the thorough and lengthy studies of the professional architects engaged on the project.

What is the reported A.I.A. position in 1967:

They concluded that:

None of the defects in the structure *appears* to indicate the danger of collapse is imminent.

Retention and repair of the existing walls *is not infeasible.*

If restoration is decided upon, *our technology is up to the task.* Later in the report, they mention bringing in experts from Europe.

They have no cost estimate for the work. They admit restoration would be time-consuming and relatively expensive.

They support a program of preservation in the *purest sense of the word.*

They believe the planned extension of the West Front would be a mistake.

What was the A.I.A. position in 1958 when they were also against the Extension of the East Front of the Capitol:

Oddly enough, at that time, this organization said do not extend the East Front, but, instead, extend the West Front. Now, they admit the East Front has been successfully extended, but they say don't extend the West Front. This about-face on their part is clearly demonstrated by excerpts from several documents, as follows:

At the A.I.A. National Convention in Cleveland, in July 1958, the architects who led the fight for the A.I.A. against the East Front Extension were Ralph Walker, FAIA, Lorimer Rich, FAIA, and Douglas Haskell, AIA. They circulated a paper at the convention saying the practical space needs to be gained from the East Front Extension:

could be achieved in better measure by extending the West Front, and without the threatened architectural sentimental damage...

AIA Journal, January 1958, Architect Ralph Walker stated:

> *... everything that would be obtained by the predetermined plan...that of moving the east front and also extending the wings, could be accomplished much more pleasantly, esthetically and efficiently by the reconstruction of the west front which has no great historic significance.*

From the Washington Post, August 13, 1958, page A-15:

> *The AIA has a plan for providing much extra space by extending the West Front.*

Memo No. 178 of the American Institute of Architects, Washington, D.C., January 27, 1958:

> *It is believed that the space requirements could better be filled -- at far less cost -- by leaving the east front alone and, instead developing a proposed scheme for expansion on the west side of the building.*

Hearing before a Subcommittee of the Committee on Public Works, U. S. Senate, 85th Congress, on S. 2883, February 17, 1958 -- Statement of Douglas Haskell (AIA) Editor of Architectural Forum, speaking as an individual and as a Member of the Committee to Preserve the National Capitol:

> *We have no reason to worry over architectural changes of this sort in the less masterly Capitol west front and the concern of architects at this point can be dismissed into the realm of rhetoric.*
>
> *Mr. Chairman, the reason the east front extension is a boondoggle is that no practical effect is served that could not better be carried out on the western or terrace side, and with no architectural damage.*

From the Washington Post, April 9, 1958, Page B-2:

> *Haskell said a better answer to Congressional space problems can be found on the west side of the Capitol where 'there will be no esthetic controversy'.*

From a "confidential" memorandum from one AIA Member to another Member in 1958:

> *In my opinion, one feasible solution would be an addition on the west side which has always had an undigested look...*

ITEM BY ITEM COMMENT ON THE AIA REPORT

AIA Report: On November 16 and 17, the Task Force met in Washington, having previously studied the Thompson and Lichtner engineering report and related material, individually.

Comment: This statement refers, in passing, to the task force studying, individually, the thorough and voluminous engineering report ordered by the Congress and made by an outstanding engineering firm. An examination of their conclusions, however, casts doubt upon this claim of studying the engineering report or, if studied, whether it was understood.

AIA Report: The Institute believes that Capitol Hill is the single most important land development in our Nation. We also believe that history will hold the architectural profession accountable for development of the Capitol and of Capitol Hill.

Comment: There is no law, rule, procedure or precedent which states or implies that the architectural profession is to be *held accountable* for the Capitol or Capitol Hill. Did the people of this Country elect this one profession or one professional society as the guardian of the Capitol? Of course not. The Congress itself is responsible to the people of the Country for the Capitol and the development of Capitol Hill.

It is proper that the architects should show interest in the Capitol and the development of Capitol Hill, but this same interest is just as dear to the landscape architects, and the various engineering societies; and we do not find them trying to dictate to the Congress or charging the Congress with *indifference*. Example: the American Society of Landscape Architects examined the extension plans and made suggestions which we accepted. That Society then agreed to take no position on the extension project *in view of the fact that it has been in preparation for years with private and public knowledge and approval, and is in the hands of eminently qualified professional persons of high standing in their own organizations.*

AIA Report: The West Front of the Capitol is in a state of disrepair. Numerous cracks are in evidence on the exterior of the building. Some window lintels and keystones have cracked and slipped. Several of the architrave stones have sagged. The foundations, at some points, are not far enough below the finish grade to escape frost damage. However, none of the defects appears to indicate that danger of collapse is imminent or that correction is impracticable.

Sandstone

There is some professional opinion that the sandstone facing used on the West Front was inferior to begin with and its deterioration when exposed to the weather was predictable. Though this stone is obviously inferior to some other stones for exterior use, the same can be said of marble. In the Old Patent Office for example, there is no serious deterioration of the sandstone facing of the first wing. Yet the adjoining wings of marble are badly deteriorated. The example is pertinent since the facing for the Capitol's West Front and the Old Patent Office building come from the same sandstone quarry. This suggests that the condition of the sandstone on the West Front may be partly due to causes other than the quality of the stone.

Comment: What the AIA refers to as *disrepair* could more correctly be labeled structural deterioration. It is not just a case of scaling paint and eroding of the sandstone. The thousands of cracks and displaced stones are not repair items, but are due to the inherent structural weaknesses of the construction.

The condition and quality of the sandstone varies as was evidenced from our work on the Extension of the East Front. We have records as early as 1793 indicating the failure of the sandstone. The deterioration has been reported from time-to-time ever since.

George Washington on December 15, 1793, stated he was concerned that the freestone was of VERY soft nature.

William Thornton and Gus Scott - May 15, 1795, expressed disappointment in the quality of the stone and lamented that stone already sent had not been thought exceedingly fine in grain or strong in texture for the work to which it is to be applied.

George Blagden wrote on May 1, 1824 -- ...the freestone from the island quarries was extremely variable and that no reliance could be placed on its strength or durability and lamented the capacity of the quarries.

Thomas U. Walter - March 29, 1838, comments in reference to the public buildings of Washington, the frailty of the material of which they are composed. He considered it a great evil that more durable stone was not used and that in a very few centuries the sandstone structures of Washington must inevitably perish.

The sandstone came from many quarries in Aquia Creek area. It would be absolutely impossible to determine which stone came from which quarry. Certainly, the stone for the Capitol and the Old Patent Office did not come from one quarry. There was great variance of the stone from the several quarries. During the construction of the Capitol and White House, sandstone was delivered to either building site based on need at the time.

Sandstone was used only on part of the Patent Office Building, which Architect Robert Mills started in 1836; the middle and north sides were built of granite and marble. Incidentally, the sandstone is on the south side of the building where exposure to the elements is not as severe as on the north, east and west. But there is no doubt as to Mills' preference for a permanent building material when he wrote, "...in regard to the material of which the building should be constructed, there is no question in the choice between the freestone and the granite, or the marble. When the subject was under consideration with the President, I respectfully urged the adoption of the granite..."

AIA Report: Cracks

Several of the architrave stones of the portico are definitely sagging and have been shored. Some window lintels and keystones have both cracked and slipped. The foundations, although below the finish grade, are subject to frost damage at several points. The basement wall of the center part of the SW corner in the court has also been shored. When the grade was lowered in this court the foundations thus exposed were veneered and it is this unbonded stone covering that has come loose from its back-up and required shoring. No cracks are in evidence on the interior but this is explained by the fact that constant repairs have kept pace with the cracks. The explanation given by the Assistant Architect of the Capitol that visible exterior cracks are due to settlement and expansion of the wall appears reasonable.

Comment: Also, the basement wall of the center part of the NW corner in the court has been shored.

It is suspected that many of the continuous cracks from top of wall to the foundations were the result of the terrific heat expansion produced by the burning of the Capitol in 1814 by the British, the fire in the Library of Congress in the West Central Wing of the Capitol in 1851, and the gas explosion in the original Senate Wing in 1898. Cracks in individual stones are, undoubtedly, the result of uneven settlement of the exterior wall or the use of weak stones or a combination of both. Evidence of what can happen to sandstone which actually came from the same quarry as that used in the Capitol can be obtained by examining the sandstone piers on Constitution Avenue, near the White House. There were many quarries at Aquia Creek which produced varying quality of sandstone -- some soft, friable, others less so.

The keystones are wedge shaped and could drop only by the spreading in length of the wall in which they are inserted. Under their present load, these keystones have already had motion and settlement in the walls of the west portion of the Capitol.

AIA Report: However, no visible effort has been made recently to fill these cracks in order at least to deter the penetration of moisture. Had this been done as the cracks appeared it is likely that the disgraceful appearance of the exterior surface due to scaling paint could have been avoided.

Comment: While the west central sandstone front has not been painted since 1960, it had been painted regularly every four to five years up to that time from 1819. At such times, the many cracks were pointed and painted over. However, the continuous expansion and contraction of these heavy masonry walls has reopened the cracks in the past prior to succeeding paint jobs, thereby admitting water which penetrated the stone and remained water-logged behind the paint, resulting in spalling from the effects of freezing and thawing. Inasmuch as it appeared Congress would seriously consider proceeding with the Extension of the West Central Front, the Appropriations Committees did not grant funds budgeted within recent years for painting the West Front.

AIA Report: The Capitol Architect's staff engineer reports that the building is not out of plumb. Thus while the Capitol is experiencing some vertical settlement it is not slipping down the hill.

Comment: While the building may or may not be out of plumb (there is no survey to prove or disprove this fact), there are bulges in the exterior. Slippage down the hill could occur without necessarily causing the walls to go out of plumb. The following is from testimony before the Commission by the engineer retained:

Speaker McCormack: Are any of the walls displaced or moved from the original position?

Dr. Clair: All the walls all around are displaced from the original position, sir. Anything from, as in the case of this one, of 3 or 4 inches, as the borings through the walls show, there is hardly a place that there is not a movement of the facing of the wall from the interior of the wall.

Speaker McCormack: Are any parts of the wall displaced?

Dr. Clair: All of this wall is. We found hardly a place in the whole old west front, the old Senate wing, old House wing, and the old center section, that the wall has not been displaced.

Speaker McCormack: Is the displacement stabilized or can it be expected to progress further?

Dr. Clair: It is not stabilized. It is progressing and that is as indicated by the fact that there is an increasing number of cracks found in our investigation which did not show in a previous study several years ago.

AIA Report: In short, none of the above-mentioned defects appears to indicate that danger of collapse is imminent or that correction is not practicable.

Comment: This statement is at variance with statement made by Dr. Clair at Hearings before the Extension of the Capitol Project Commission:

Statements by Dr. Clair at Hearing Before the Commission for Extension of the United States Capitol, 89th Congress, First Session on the Condition and Proposed Extension of the West Central Front of the U. S. Capitol, June 24, 1965:

The fact is that this type of construction, if you had even a minor earthquake would lead I am sure to not only falling of the exterior stone but also, with that, partial collapse of these walls. That is one of the reasons it is desirable to put another structure here that can brace this structure...

Mr. Ford: Is it developing at an accelerated rate?

Dr. Clair: Sure it is, otherwise we would not have been able to find the difference in the few years between the previous observations, which are marked on here, and our observations of cracking...

Speaker McCormack: Are there any dangerous conditions which require immediate attention? If so, what would be involved?

Dr. Clair: Well, just to work backward on this model. To correct the condition of the foundations at the retaining walls of the terrace, they would have to be underpinned...

Dr. Clair. This must be done. Something must be done on this immediately, sir.

Speaker McCormack: What do you mean by "immediately"?

Dr. Clair: Next week. I am not kidding. I think it is so serious something should be done at once.

AIA Report: Subsequent events have proved the 1957 survey unreliable. (Space Survey)

Comment: Like most forecasts, the 1957 survey produced the best information that could be developed at that time, but additional legislation, tremendous increase in population and jurisdictions have increased the requirements then anticipated, hence the need for greater space. While there has been no additional survey since then we have kept track of space needs and are familiar with up-to-date requirements.

AIA Report: It is quite possible that some of the functions now housed in the Capitol building could be moved to other new or existing buildings with no loss of efficiency.

Comment: The space needs made evident to us indicate that only such functions which need to be in the Capitol are presently and proposed to be placed in the Capitol.

AIA Report: There is obviously a limit to the amount of space which can be added to the Capitol if it is to retain any resemblance to its original form -- or even to the present building. Congress will presumably decide at some point not to make any more additions to the Capitol. We believe the Congress should make that decision now while the one remaining original wall can be saved as visible evidence of our heritage.

Comment: Such a decision, if made, should follow the Extension of the West Central Front of the Capitol. The extension will once again place the Capitol in sound structural condition and complete the revised composition of the design begun with the addition of the present Senate and House Wings and the addition of the present dome more than 100 years ago. The "one remaining original wall" when built was not as it appears today, coated with more than 35 coats of paint, cracked and patched. Cleaning and removing the paint would destroy more of the delicate carvings on column and pilaster caps, cornices, consoles, carved panels, etc. One has only to look at the glass covered portions of carvings on the old east front of the original Senate and House Wings to see the condition of the sandstone when exposed to the weather.

Plans for the Capitol have been altered and added to from a time when it was not sufficiently completed for the initial occupancy (Latrobe drawing - 1806). Further, additions have been made as the needs of Congress required them. The Congress meets and works in the Capitol building and surely no one is more qualified to know the needs than the Congress itself. The current need for additional space inside the Capitol proper is evidenced by the present numerous requests for space and facilities, and the severely crowding of facilities.

AIA Report: If the extension is carried out, the work of important early American architects and landscape architects would be lost forever -- namely, Thornton, Latrobe, Bulfinch, and Olmstead. The work of these significant American architects would seem important to keep in a world in which we are losing many of our original resources in buildings and nature.

Comment: Was the work of the early architects lost when the East Front was extended 1958-1962? Of course not. It is there today for all to enjoy. Neither will it be lost on the West Front Extension. It will be there also in permanent construction for which the whole nation can be proud. The so-called "restoration" proposed by the AIA task force would result in replacing many, many of the present stones, so it would in the end be a replica. The proposed extension would likewise be a replica of the essential features of the architecture.

AIA Report: Restoration work done on historic buildings in Europe indicates that walls and columns which have deteriorated have been reinforced effectively by a system of drilling diagonal holes through the masonry, inserting reinforcing rods, and forcing grout under pressure into the holes. Another successful technique called "needling" involves the use of temporary steel beams to take the load off parts of the wall while other areas of the wall are being repaired.

Comment: Except for the exterior architectural treatment, the restoration of the walls of the structure is an engineering problem and is well presented in The Thompson and Lichtner Company, Inc., report. Should restoration be undertaken the services of a most qualified and experienced engineering firm and contractor would be required. To accomplish the job outlined above would require destroying the interior finish much of which has decorative painted treatment on walls and ceilings. If walls and ceilings are solidified through intrusion grouting under pressure, undesirable conditions would develop such as sweating in winter on interior finished surfaces through condensation. Present voids in walls act as insulation against conduction. Solidification of walls might also result in new expansion cracks with resultant leaks. In order to needle the walls, it would be necessary to solidify the interior core of the exterior walls with the resultant damage mentioned.

AIA Report: If restoration is undertaken, Congressional leaders with offices located on the West Front would have to move and this certainly would be an inconvenience. But this inconvenience would occur even if the West Front was extended.

Comment: The latter is not a statement of fact as the Congressional leaders would not be inconvenienced except to a very minor degree as compared to the amount of inconvenience in an overall restoration. Restoration would result in vacating all the rooms on the West Central side including Statuary Hall. We constructed the East Front without moving out any Members.

AIA Report: Restoration: Cost. No estimate has been made by the Capitol Architect to determine the cost of restoring the West Wall in its present location on the grounds that restoration was not the best solution and there were too many unknowns to arrive at a reasonable estimate. The American Institute of Architects does not know what the cost of restoration would be. However, it is unlikely that the cost of restoration would approach the total cost of extension.

Comment: This is at variance with Dr. Clair's statement that restoration might cost anywhere from $10 million to $50 million. A member of the task force recently stated to a group at the Capitol that cost of so-called restoration could exceed the cost of the extension. It is anybody's guess as to what the cost of restoration would amount to, as such work would have to be done on a cost-plus basis, solving problems as the work progresses and the unknown conditions are revealed. There would be considerable risk attached to such an operation without any assurance that failure of the brick floor arches might not occur after the shores are removed.

AIA Report: Master Planning: For example, most universities, towns and cities of consequence have recognized the benefit of a master plan. And Congress has insisted that comprehensive master planning be accomplished before Federal funds are granted for interstate highways, model cities and other development programs. Yet no such plan exists for Capitol Hill.

Comment: In recent years, a Senate Bill for providing a master plan for Capitol Hill was supported by the Architect of the Capitol, but the Bill has not been enacted. The Architect of the Capitol is in favor of a master plan and recommended that such a plan be made by the National Capital Planning Commission and his office jointly. But, really, preparation of a master plan has little or no effect on the need to provide the Capitol with a permanent west face.

AIA Report: Conclusion: Restore the West Front. The American Institute of Architects recommends that the West Front of the Capitol be restored and that Congress establish a permanent policy prohibiting any further major alteration to the Capitol other than that absolutely necessary for structural and safety reasons.

Comment: Such a policy, if made, should come after the extension of the West Front when the building will be in a sound condition.

AIA Report: No evidence has been produced that would make impracticable the restoration of the West Wall in its present form. The encrustations of paint should be taken off and only those parts of the original facade that are dangerously damaged or deteriorated should be removed to be replaced with the same material as that of the original walls. The more aged, eroded condition of the stone of the West Front should be considered honorable evidence of its survival as one of the earliest of our major public buildings. It is a condition that does not detract from the beauty of the building when viewed from a distance, and it is one which adds considerably to its interest and historic significance when examined close-at-hand.

The American Institute of Architects believes it would be a mistake to cover up the last remaining exterior portion of the original Capitol. We strongly urge that the greatest symbol of our country be preserved.

Comment: The conclusion of the A.I.A. Committee is, of course, at variance with the rather extensive structural analysis of the various alternatives and recommendations made by the independent engineering consultant, The Thompson & Lichtner Company, Inc., in their "Report on the Structural Condition of the West Central Portion of the United States Capitol," dated November 1, 1964.

Further, the statement is not a fact. The reports from the engineering consultants indicate this operation would, indeed, be hazardous and costly in attempting to remove portions of the old walls in order to replace the many damaged stones now exposed and/or concealed by the encrustations of paint.

Aquia Creek sandstone quarries are no longer operative and replacement material to match the existing sandstone is not available and certainly not from the twenty or thirty depleted quarries which furnished stone for the Capitol and other city buildings at that time.

SUMMARY COMMENT

The A.I.A. report has some commendable qualities: it is brief, it is presented in a rather inoffensive manner compared to the hysterical and emotional protest from this organization several years ago against the East Front Extension; and, at least, it shows that a few members of the A.I.A. have given some thought to the West Front Project.

To our mind, however, it lacks the thoroughness of the studies made by the professional architects-engineers retained by the Commission; it is in many respects too general, too vague and too "iffy." Such a report can be made and perhaps is appropriate for an organization that does not have the responsibility for the safety and maintenance of the structure and the well-being of the occupants. But the Congress cannot afford to take chances with a "maybe" program.

In some ways, what the A.I.A. report does not say is more important than that which is said:

They do not indicate precisely how their recommendations could be satisfactorily carried forward;
They do not tell the Congress what the building will look like when the 30-odd coats of paint are removed and the voids, cracks, and eroded sections are laid bare;
They do not outline the technique for removing the paint from the already crumbling and disintegrating sandstone ornamentations or from other portions of the building (we know from our experience with the East Front panels preserved in the main corridors that it is impossible to satisfactorily remove the heavy coatings of paint from these old, decaying architectural features, especially where they have been exposed to the elements);
They do not refer to the spotty appearance of the building that would be created by new stones contrasting with the old stones quarried over 160 years ago and now saturated with the vehicle of the paint;
They do not say that the wall with replaced stones would crack once again from the lack of expansion and contraction provisions, which cannot be built into a wall already constructed;
They do not say that many stones would have to be removed whether sound or not to accommodate the replacement of damaged projecting stones such as cornices, belt courses, etc., which are in effect cantilevered;
They say little or nothing about the danger to the building and occupants that could result from their recommendations;
They do not estimate the cost of their program;
They do not say whether the Extension Plan 2, prepared, reviewed, and recommended by eminent members of the A.I.A., is good, bad, or even satisfactory.

What a shame it would be to butcher this old building in the manner they propose. Their program, if it can be called that, in the name of restoration and/or preservation, is an open invitation to endless expense of public funds, continued admittedly poor structural conditions on this section, a scabby appearance of West Front overlooking the mall, and stifling any further space growth for Congressional operations in the Capitol.

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EXHIBIT OF DRAWINGS

Mr. CAMPIOLI. I have here an exhibit of photographs and drawings which with the permission of the committee I should like at this point to proceed with and describe.

Mr. ANDREWS of Alabama. Very well.

DETERIORATION OF STRUCTURE

Mr. CAMPIOLI. First of all, I should like to trace for you what brought about recent consideration of this project. The first item which appeared very hazardous was the portico architrave stone joint which began to open considerably. You can see, from the ruler, in this photograph, the joint is over an inch wide at the bottom. That joint at one time was probably less than a quarter of an inch in width. This particular stone which spanned in between the column caps and not on top of them, is held in place like a Scotch joint. The dovetailed anchor has broken through to the outer face, with the result that this stone has sagged considerably. The only way to remove that stone would be to dismantle the portico entablature above this stone. The reason for this is these architrave stones are held together by wrought iron bands that extend the full length of the portico. That is the only reason this architrave stone does not fall out of place. If it were not for the tie bands, that stone would drop. Therefore to get to the stone, it is necessary to remove everything from this point up, remove the straps, shore up the remaining architrave stones, then remove the defective stones and replace them, the straps and portico.

Mr. ANDREWS of Alabama. That is the center section of the building?

Mr. CAMPIOLI. Yes, sir.

AGE OF WEST CENTRAL SECTION

Mr. ANDREWS of Alabama. What is the date of that architecture?

Mr. CAMPIOLI. That section was completed in 1829.

CONSTRUCTION MATERIALS USED

Mr. ANDREWS of Alabama. With materials available at that time?

Mr. CAMPIOLI. Yes, the sandstone. The reason for that type of architrave construction is that they could not get enough large stones to span from column to column so they decided on the Scotch joint, permitting the use of smaller pieces.

Mr. YATES. Was marble used in any of the Government buildings at that time?

Mr. CAMPIOLI. Very little. Use of marble began a little later, although it was available and was considered for the Capitol. The sandstone was more readily available and cheaper. Marble was recommended by Benjamin H. Latrobe, second Architect of the Capitol, but because of the economy of the time, it was decided to use sandstone.

OTHER FAILURES OF WEST FRONT

There are other failures as shown here, such as these cracks in the belt course. It would be difficult to replace wherever it has failed. It

would require the removal of a considerable amount of stonework above it. This belt course stone is cantilevered a considerable distance; therefore, it is supported on the wall for an even greater distance.

These photographs show the type of stone we have in our walls starting with the sandstone on the outside face and going into the rubble stone on the interior surface. This photo shows some of the type of mortar we have. Actually some of the oystershells were still lying intact in the mortar here.

This photograph shows again a failure of the belt course with considerable deterioration which occurs here [pointing] and at the corners. It also shows that this keystone has dropped. In addition, the adjoining stones have dropped and the sash below have had to be coped out, or the frames have to be coped out in order to keep from cracking the windows.

This particular pediment has a crack all the way through from top to bottom. As you can see a drop has occurred at that point.

Following the 1964 investigation, we proceeded to install some props under the west front portico where the worst evidence of failures were showing themselves, and also to brace the lower portions of the old Senate and House wings which were showing signs of bulging out. We arrived at those conclusions through investigations of the wall.

This is a photo of Dr. Clair opposite a location where we removed a single stone. We found that face stone to be completely separated from the backup material by about 4.5 inches.

This photo shows how the center of the wall is built. This is another view looking down between the outer stones and the inner stones.

This photograph shows that the front has bulged about 4.5 inches and these are photographs showing the stones which are bulging out of place.

CONSTRUCTION OF CAPITOL

The construction of the Capitol consists of an outer wall of cut sandstone laid in lime mortar which was fairly well done for those days. It has an interior face of rubble stone or field stone, laid up in lime mortar. The central part or core of the wall consists of miscellaneous rubble stone, some mortar, mostly loose material.

The floors of the building are mostly built of stone with marble added later. They are supported by a sand fill which in turn is supported by brick arches. These brick arches depend on the exterior walls for their support. Removal of any substantial portion of these stones would cause these arches to collapse. Therefore, if a restoration project were considered, it would be necessary to vacate all of the rooms in the west central part of the Capitol in order to provide shoring and centering in all these rooms.

AREAS REQUIRED TO BE VACATED UNDER RESTORATION PROJECT

In other words, on the basement floor, the Architect's Office and some House officials would have to find other quarters.

On the first floor, all of the spaces, starting from the northwest corner of the old Senate wing, and extending south around the west of the Capitol as shown in color on these drawings, would have to be vacated.

Mr. YATES. What rooms are those? What offices are in there?

Mr. CAMPIOLI. Here [illustrating] is the Capitol physician. I don't happen to know who the occupants are of all of the rooms on the Senate side.

The next, or second floor would involve the House minority leader. I think some of the leaders of the Senate are located on this west side. One of those is the Senate minority leader, in that particular area. Of course, it would also involve shutting down Statuary Hall and the House document room, and completely shoring them for a period of 5 to 10 years, depending on how much of this work could be done at one time. We could not do all the work at one time without collapsing the building.

The gallery, or third floor, would require vacating all of those areas [pointing] and a certain portion of the attic.

AREAS REQUIRED TO BE VACATED UNDER EXTENSION PROGRAM

Now, as contrasted to that, if an extension project is developed, the only large area of displacement would be the terrace area. The area you see shaded in the terrace would have to be vacated and we would propose to erect temporary structures off the corner of the terraces during the construction period to house the terrace occupants.

On the interior of the building, the first, second, and third floor, these two small rooms on each floor at the ends of the corridor would have to be vacated. Such vacancy could take place toward the end of the project, at which time we would then have many of the extended areas ready to provide new quarters for anyone who might be disaccommodated in those areas.

You can see from this comparison there is quite a difference. The space of these small rooms (pointing) becomes part of a new passageway in the extension project which I will show you now by proceeding with the plans for the extension.

SPACES TO BE GAINED THROUGH EXTENSION

This plan shows the space gained at the sub-basement level which is one level below the rear yard, and would provide space which could be used for storage or other purposes.

On the ground floor level the visitors can be accommodated by entering from the lower terrace into an area where information and indoctrination areas could be provided, including public toilets. In addition to this, we propose to remove unsightly sidewalk lifts on the east front which now receive the food and discharge the garbage from the same point, sometimes at almost the same time and provide underground, out-of-sight service facilities. Trucks can come in here (pointing) and back in here and unload and depart without being visible from the exterior. We plan to provide like facilities on both sides, for the Senate and the House.

At the upper terrace level this area will provide additional dining facilities, cafeterias, dining rooms, which can be used by Members of Congress, the staff, and the visitors.

At the first floor level the extended area will provide facilities such as a large committee hearing room here which is in the vicinity of the present House appropriations room. The present House Appropriations Committee room could be made into a subcommittee room connected to this new larger committee room.

When this project was first authorized for preliminary study we tried to obtain a list of requirements. Your chairman indicated he would like us to give consideration to the inclusion of a large committee room. This plan therefore, shows the size of a large committee room which could be provided.

Mr. Bow. This committee, as a matter of fact, gave up the opportunity for a committee hearing room and staff offices in the Rayburn Building in anticipation of a large room over there in the west side of the Capitol when extended.

Mr. CAMPIOLI. The layout shows a suggested arrangement of offices which can be modified as the exact requirements are determined. In addition, we show the location of three new elevators on the House side, centrally located, and three new ones on the Senate side. Public toilets, one for men and one for women, on the House side, and one for men and one for women on the Senate side, and such facilities would be provided on each floor.

Mr. YATES. How did you happen to select that number of offices? Is there a request for offices from anybody for whom you are constructing them?

Mr. CAMPIOLI. These are just suggested office layouts. The second floor plan again shows pretty much the same thing except on this floor the committee room in the House connecting wing would not be quite as large as it is on the first floor. This is due to having to indent the exterior wall for this upper portico in order to provide a through passageway.

These (pointing) are the two small rooms which I said we would have to vacate if the extension is provided in order to obtain a through corridor from the House side right through to the Senate side.

The same condition would occur on the gallery floor. We gain additional space in the attic.

Now, I have another drawing here which I would like to show.

VIEW OF DOME

There's been criticism of this project because the extension, it is said, would cut off the view of the dome.

We have made a drawing showing a person standing on First Street west. The green line is what he now sees. The red line is what he will see if the project is extended. I'm sure you would agree there is not much difference.

Then we located a person down on the lower terrace. The green line is what he now sees and the red line is what he would see after extension.

EXTENSION MADE TO ST. PETER'S IN ROME

Now, there have also been comments made that the Capitol is like St. Peter's in Rome, and that certainly St. Peter's would never have been extended. Those statements are not in accord with the facts.

St. Peter's was extended 275 feet 100 years after it was built. I would say that is quite a bit more area than the 44 feet that we want to extend the central portion.

With regard to it being the same shape and plan——

DOME TO REMAIN IN BALANCE

Mr. ANDREWS of Alabama. Would the dome be out of balance, north and south, after the west front extension?

Mr. CAMPIOLI. No, sir. The dome would not be out of balance. The dome would still center on the north and south wing of the House and Senate. In other words, this is what you see from the north. This is what you see from the south. When you look from Union Station toward the Capitol, the dome would still center on the end walls. This [pointing], I believe, would fade off in the perspective.

The real weakness of this design is not the original design itself. Inasmuch as when this was a small building like this [illustrating] with a small dome on here, this central portico was perfectly in scale. But from the moment the wings were added, and the great dome was added, then the little portico became terribly small in scale in relation to the enlarged composition.

WEIGHT OF DOME

Mr. ANDREWS of Alabama. What is the weight of the dome?

Mr. CAMPIOLI. 4,500 tons.

ADEQUACY OF DOME SUPPORT

Mr. ANDREWS of Alabama. Do you consider at this time the west support of the dome inadequate?

Mr. CAMPIOLI. Not for the support of the dome, as it has a very substantial base under it. It is anybody's guess what lateral thrust is being created, but, as far as support is concerned, there is an adequate mass of masonry around and underneath it, which should not put the dome in peril.

DANGERS OF COLLAPSE

Mr. ANDREWS of Alabama. Your fear is that the western wall of the Capitol Building at the present time, those walls are old, weak and could collapse at any time if undue thrust were imposed such as a sonic boom or earthquake.

Mr. CAMPIOLI. Yes, sir.

Mr. YATES. Would collapse of the wall cause collapse of the second floor? As I understand what you told us on a previous drawing, the floor was resting on an arch and if the wall went out, the arch would go and the floor would go, is that right?

Mr. CAMPIOLI. That is right.

This wall is acting like the flying buttress in a Gothic Cathedral. If you remove the flying buttress, the arch of the nave of the church will collapse.

If you remove this exterior stone work, the inside core would fall out as it is loose. The only part of the wall that would remain would be the thin shell of the interior rubble stone. That would not be sufficient to counteract the arch thrust which is going outward at that point and, therefore, unless these rooms were vacated and shored, these arches would collapse.

Now, assume a restoration project were done and you shore and put centering under all these arches and you take the load away from these arches, these arches will then become loose individual bricks sitting in the cradles without any compression on them. Then, after 5 or 10 years upon completion of repairs, you remove all that shoring; there is no guarantee that these arches are going to reseat themselves and stay there when you remove the shoring.

Furthermore, if you were to restore, it is impossible to build expansion joints in these outside walls and these outside walls are suffering from the lack of them. That is one of the reasons we have over a thousand cracks. That is also part of the reason why we have over 21 vertical cracks over the whole height of the building.

In reconstructing this wall, new expansion joints could be provided, but those expansion joints would not serve any purpose because they cannot be carried into the interior of the building, with the result that there would be a friction developed between the exterior walls and the interior bonded walls. The exterior walls would want to expand, the interior walls would not allow for expansion and the result would be more cracks.

NECESSITY FOR EXTENSION

Mr. YATES. Could the present wall be corrected and rehabilitated so that the dangers you speak of are eliminated without an extension of the Capitol?

Mr. CAMPIOLI. I do not see how, Mr. Yates. There have been recommendations made that you could infuse the walls by pressure grouting with concrete in order to solidify them. That is something I would not recommend for many reasons. One is—it is difficult to control the pressure and the result of such pressure of concrete would be to cause the removal of the plaster off the interior of the wall. Many of these rooms have decorative paintings on the walls and ceilings.

In addition, the present wall being built as it is provides one benefit; that is, the exterior surface can expand and contract without necessarily extending its crack to the interior surface because of the poor core. The exterior surfaces are exposed to temperatures ranging from 0 to 100. The interior surface is more or less a constant 75. If this was a solid wall infused with pressure grouting and a crack developed on the outside, the crack would carry right through to the interior, resulting in possible leaks and disfigurement of the interiors.

Mr. YATES. Are you saying, Mr. Campioli, that you cannot restore the west wall without an extension, as appears in your plan?

Mr. CAMPIOLI. Not without taking considerable risks and hazards and involving a very extensive cost to do the work, which in my opinion would be in excess of the cost of the extension.

Mr. YATES. In excess of $44 million?

Mr. CAMPIOLI. Yes, sir; that is, to do a proper restoration and maintain this wall.

COST OF RESTORATION

Mr. ANDREWS of Alabama. Who made the estimate that the cost of restoration might range from $10 to $50 million?

Mr. CAMPIOLI. That was made by Dr. Clair.

Mr. ANDREWS of Alabama. The outside engineering consultant?
Mr. CAMPIOLI. Yes, sir.
Mr. YATES. Did the AIA indicate any costs of rehabilitation?
Mr. CAMPIOLI. No, sir; they came up with no figures in their report.

AIA VIEWS ON RESTORATION

Mr. YATES. Do they agree with you that a rehabilitation of the wall in itself would not eliminate the danger?
Mr. CAMPIOLI. I have never gone into that with them. I do not think they would, no; but we know of other engineers who wrote reports for other organizations like for the Fine Arts Commission, Mr. Locraft's firm, who endorsed many of Dr. Clair's statements, that it would be risky, hazardous, and costly to do restoration work.
Mr. YATES. Did the members of the AIA who take the position this should not be extended have the Clair report available to them?
Mr. CAMPIOLI. Yes, sir; they did have.
Mr. ANDREWS of Alabama. Is that all you have to show us?

WORK INVOLVED IN RESTORATION

Mr. CAMPIOLI. I would like to show these additional section drawings that indicate the construction and give you an idea of the sort of job that would have to be done if a restoration job is undertaken.
We would have to shore all of these rooms going all the way up through here [pointing] and vacate them, before we could remove any of the exterior stonework, in order to keep these arches from collapsing.
Mr. YATES. What would you have to do to rehabilitate it, Mr. Campioli? Would you have to take the wall down in order to rehabilitate it?
Mr. CAMPIOLI. No; that was one of the alternates considered by Dr. Clair; that is, the complete removal and rebuilding of the wall. Here again Dr. Clair did not recommend such a course, as it meant the shoring of all these rooms. He was concerned with the lime mortar in these brick arches, as to what would happen to them when the shoring was removed, whether these arches would stay there or collapse. Some of the arches in the Capitol, when they were constructing the building, did collapse. They installed centering under them with shores and laid the brick on top of the arch supports. Then, when they removed the arch supports, the arches collapsed.

DETAIL OF WORK REQUIRED UNDER RESTORATION

Mr. YATES. What would the process be of rehabilitation? Would you have to shore up the inner rooms and the inner arches that appear in that diagram and then work on the outer wall?
Mr. CAMPIOLI. I have made an outline here of what could be the procedure. First, you would have to provide additional bracing on the exterior. There are five areas on each side where we have applied bracing. We would have to install bracing up to the next floor level.
We would have to underpin all of these exterior walls because they do not go down below frost cover now and some of them are overloaded and some have settled.

We would have to provide a heavy scaffolding over the entire exterior of the building in order to be able to handle the stones that would be removed from the walls and replaced with new stones.

We would have to remove all exterior paint to determine the amount of defective work.

We would have to measure the exterior faces of all stones to be replaced. That can only be done after the paint has been removed. However, we would not be able to measure those stones for depth until the stones had been removed from the wall and, therefore, we could not tell the contractor the depth of the stones he would have to provide.

We would have to remove and replace the doors and window frames as these could not be left in place during such operations. Some of them need replacing anyway.

We would have to provide temporary facilities for the offices to be vacated, somewhere, and while we propose to do that for the people who work in the terraces I think it would be a different question to provide such facilities for Senators and Congressmen.

We would have to vacate all of the offices adjoining the west wall. Then we would have to shore and cradle all the interior arched ceilings adjoining the west wall.

We would have to remove the roof parapet. The parapet is this top railing at the roof here.

We would have to remove the roof down to the tops of the arches, in order to remove the cracked and deteriorated entablature.

Mr. ANDREWS of Alabama. Could you get a firm contract on a restoration job or would it have to be cost plus?

Mr. CAMPIOLI. Cost plus.

We would have to remove and replace all cracked, spalled, and deteriorated sandstone. That might result in removing a perfectly good stone above it because you might not be able to get the cracked stone out without taking one out above it, or creating a void in the shape of a pyramid above it. That is; taking out stones step fashion above every deteriorated stone.

We would have to restore the backup at the removed stones. There are approximately 21 continuous cracks from the top to the bottom. Removal and replacement of stonework at these locations should be done progressively rather than simultaneously. In other words, we would have to follow up every one of the 21 cracks and correct that condition and then go to the next one. We could not do them simultaneously, as it would be too dangerous.

We would have to remove and replace all stone necessary to allow the removal and replacement of the defective stonework.

It would be necessary to pressure grout the core and the new stone joints as it would be impossible, in slipping a new stone into place, to provide mortar in a deep quarter of an inch joint. It would have to be pressure grouted with the possible result of damage to interior work.

It would be necessary to remove, reset, and replace dropped key stones; to remove, reset, and replace veneer walls at the basement level where the walls have bulged out, and to remove and replace stone damaged in the process of carrying out the work.

We would have to provide new limestone to replace the defective sandstone as sandstone of good quality is no longer available. The type furnished us by samples a few years ago was much inferior to even the

worst of the sandstone that was used originally. The stone was full of inclusions and it was such as we could not accept. Therefore, we would have to go to a different material like limestone, which would be the closest to the sandstone. The result when we get through would require the start of the painting process all over again every 4 years.

We would have to remove interior shoring and refinish the interiors, and paint the entire exterior.

Now, there is the problem of getting the right depth of stone. We would have difficulty as we would not be able to determine such size, on the drawings for the contracting of the stones. We would not know how big they are until they are removed from the walls, and the contractor would not be able to preestimate their cost.

Installation and location of the anchorage of a derrick, would be a problem. There is a difficulty of getting a derrick into the courtyards to handle the big stones without seriously damaging the existing terraces. In the extension project, of course, we propose to remove that central section of the terrace and therefore we can bring a derrick in without any trouble.

There would be damage resulting to the interior finishes and in the art work. There would be a problem of anchoring individual stones, and grouting the individual stones. The cleaning of paint from carved sandstone presents a most serious problem.

Now, it is practically impossible to remove paint from some of the carved work such as the column caps. Some of the acanthus leaves are not more than an inch thick. Three-sixteenths of the surface of much of the sandstone is in bad shape. If three-sixteenths of an inch were removed from either, or both sides of this sandstone, there would be very little left to hold that carved stone in place and I am sure that a lot of it would disintegrate. I would not recommend that sort of a procedure.

Therefore, that would require removal and replacing of all carved work with new work, and it would no longer be the original work. Provision for expansion and contraction, I explained, would be nearly impossible to do successfully.

Vacating the offices for as much as 10 years, and the possible failure of brick arches, I have already mentioned. It is impossible to predetermine costs, and therefore, it would have to be a cost-plus job. The result of such a procedure would be a temporary solution due to the lack of adequate expansion joints. Cracks would recur. The painting procedure would have to be resumed and carried out every 4 years.

Eventually I believe you would be faced with the extension anyhow. I do not believe that restoration would be a permanent solution. I do not believe it would last more than a generation at most before you would be faced with the very same problem.

LACK OF PERMANENCE OF RESTORATION WORK

Mr. ANDREWS of Alabama. You are telling us that a restoration job done on the west front of the Capitol would, because of the nature of the work to be done, have to be done by cost-plus contract?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. And that in your opinion the extension-type work would be cheaper?

Mr. CAMPIOLI. In my opinion, yes, sir.

Mr. ANDREWS of Alabama. And far more permanent?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. And safer?

Mr. CAMPIOLI. No doubt about that.

Mr. ANDREWS of Alabama. And that if a restoration job were done, in your opinion, it might not last more than one generation?

Mr. CAMPIOLI. Before you would be faced with the same problem.

Mr. ANDREWS of Alabama. Now you are speaking of those cracks that go from top to bottom. I believe you said there are 21 of them?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. If you did a restoration job, you would have to take them crack by crack and go from bottom to the top?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. With no assurance that additional cracks would not occur?

Mr. CAMPIOLI. That is correct.

Mr. ANDREWS of Alabama. Upon completion of the correction of the existing cracks?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. So you, I assume, from your testimony, strongly recommend that the committee start an extension project?

ADDITIONAL TEMPORARY MEASURES IF EXTENSION DOES NOT PROCEED

Mr. CAMPIOLI. Yes, sir. If this committee chooses not to do this, you might ask what is the alternative? Right off, we would, as temporary expedients, have to do certain things like provide bolts in the bracing and shoring now in place. We reported when we obtained funds from this committee for the original bracing work that this work would be good for 5 years.

The first work that was done will be 5 years old next year. The posts on the portico have already shown signs of checking and opening up. In order to salvage these posts wou'd require they be drilled and then bolts inserted in an effort to try to derive a litt'e more life out of them.

In addition to which, we would have to provide shoring up to this next floor level. Dr. C'air has indicated that, based on the 'ast set of readings, it is his opinion this is what he will recommend after he has had a chance to examine the readings which were taken in August.

In addition to that, he told me only last Friday that he can foresee that he will probably recommend the removal of the portico down to the second floor level if the Congress should decide not to proceed with the extension. Now, if we get into a job like that, we are talking about in the neighborhood of—and that is not replacing the portico, just removing it and providing this additional bracing and so forth—a figure in excess of $500,000, possibly a million dollars.

WEAKENING OF BUILDING

Mr. ANDREWS of Alabama. Do you know of any work that has been done on the west front of the Capitol since the day it was completed to reinforce the strength of the building, other than the shoring you did 5 years ago?

Mr. CAMPIOLI. The building has been painted and pointed on the exterior for years, but most of the other work that has been done on this section of the Capitol has, not intentionally, but it really has been in the reverse direction. In other words, the conveniences that have been added over the years have been made at the sacrifice to some extent of the structural stability of the building.

In other words, when heating and plumbing were installed and air-conditioning was installed, many of the old walls had to be chased. Floor arches had to be cut, all of which can't help but weaken the structure. There are many places where doors have been cut through the walls where they never existed before. All of that, of course, has contributed to some weakening of the structural stability of the building.

The fires have caused the worst effect of any, but until recent years when the east extension was added there has been little to my knowledge that has been done to strengthen the old central structure. The lowering of these terraces. Originally this grade was not down as low as that (pointing). When the courtyard was lowered, and the new terraces installed, the courtyard grade was lowered to a point below the bottom of the west walls. But as I said, the conveniences added have of necessity had to be installed in a manner that weakened this portion of the structure.

STABILIZING OLD WALL BEFORE EXTENSION

Mr. ANDREWS of North Dakota. If you extend this frame and in effect shore up the old walls by a rigid bracing effect from the new outside walls then the floors to the old wall, what type of new footing will you put under the old exterior walls, which will then become interior walls?

Mr. CAMPIOLI. We intend to underpin the old walls before we start any work.

Mr. ANDREWS of North Dakota. How will you get at that?

Mr. CAMPIOLI. We will have to dig down alongside of each wall—first of all, however, we are going to have to relocate underground utilities that are buried in this space here (pointing). We have steam lines, electric ducts and such work located behind the retaining walls. We will have to relocate those items first. Then we will dig down along here in pits and underpin one area at a time, about 3 feet wide, down to the proper depth. After the concrete underpinning has set up, move to the adjoining area, the same as we did on the east front. We underpinned the old east front walls.

Mr. ANDREWS of North Dakota. You finally put a reinforced concrete footing all the way through?

Mr. CAMPIOLI. Substantially underneath the front.

Mr. ANDREWS of Alabama. Now we have a few questions for you.

BIPARTISAN APPROVAL OF EXTENSION

From what you say on page 1, this is not only the unanimous recommendation of the five members of the Commission, it is, of course, also a bipartisan recommendation. The Speaker, the Vice President, Mr. Agnew, and the minority leaders of the Senate and the House, Mr.

Dirksen, and Mr. Ford, have endorsed it as a request to be presented at this time; is that correct?

Mr. CAMPIOLI. Yes, sir.

TIME SCHEDULE OF EXTENSION

Mr. ANDREWS of Alabama. Looking at page 3, and supposing you get this planning money some time next month. You say the plans would require 18 months, but you could begin certain preconstruction phases before that. When would that be at the earliest?

Mr. CAMPIOLI. In the 1971 budget we would have to request funds for the construction work in these earlier phases. The work could not get underway before we would appear once more before this committee.

Mr. ANDREWS of Alabama. But you would first have to come in for an appropriation for that?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. There are no construction funds now requested; is that correct?

Mr. CAMPIOLI. That is correct.

Mr. ANDREWS of Alabama. When would you, at the earliest, expect, under your plan, to get to the major construction contract stages?

Mr. CAMPIOLI. According to the schedule which we submitted in the report of the associate architects in 1966, we could start work as soon as we would be able to obtain funds for construction.

Mr. ANDREWS of Alabama. Just what is the timetable as you see it?

Mr. CAMPIOLI. For the entire project, including plans and specifications, it would be 51 months if the work is done on the basis as outlined on page 3 of our justification.

Mr. ANDREWS of Alabama. Then it would be late spring of 1971, would it not, before plans would be ready for asking for bids for the main work?

Mr. CAMPIOLI. That is correct; for the early stages of the work.

ASSOCIATE ARCHITECTS FOR THE EXTENSION

Mr. ANDREWS of Alabama. Who are the associate architects-engineers?

Mr. CAMPIOLI. DeWitt, Poor & Shelton.

Mr. ANDREWS of Alabama. What work have they done on Capitol Hill?

Mr. CAMPIOLI. The extension of the east front of the Capitol.

Mr. ANDREWS of Alabama. What else?

Mr. CAMPIOLI. They have done other work as individuals but not as a joint venture. Mr. DeWitt did the remodeling of the Cannon Building. Mr. Poor did the new cafeteria and other improvements in the Longworth Building and Mr. Shelton was the architect of the underground garages.

ARCHITECTURAL-ENGINEERING FEE

Mr. ANDREWS of Alabama. You mentioned a fee. Is 8.5 percent the normal standard in this sort of work?

Mr. CAMPIOLI. For alteration work as complex as this would be, this fee is actually lower than it is on other alteration work of similar char-

acter and complexity. In other words, the AIA condones higher fees up to 10 and 15 percent for this type of work.

Mr. ANDREWS of Alabama. What was the fee on the other projects here?

Mr. CAMPIOLI. The new projects were done on fees under 6 percent. That is, 5.5 percent. This being an alteration job, the fee is more costly.

Mr. ANDREWS of Alabama. What was it on the Cannon Building remodeling? You may supply that for the record.

(The information follows:)

Seven percent on the Cannon remodeling work.

Mr. ANDREWS of Alabama. Why would they agree to accept as full payment the 7.5-percent rate on the outdated 1967 cost estimate in case the project is not consummated?

Mr. CAMPIOLI. Well, they are very devoted to this project and they are very anxious to see it go ahead and I think they are willing to make sacrifices for the sake of possibly going ahead.

Mr. ANDREWS of Alabama. Is this the same fee rate and arrangement you have on the Madison Library project?

Mr. CAMPIOLI. No; this fee is higher. The Madison project is new work and can be done at a lower fee.

Mr. ANDREWS of Alabama. New projects usually cost less?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. Who are the advisory architects and other specialists you refer to?

ADVISORY ARCHITECTS

Mr. CAMPIOLI. John Harbeson of Philadelphia, Paul Thiry of Seattle; Gilmore Clarke of New York, and the fourth member is yet to be retained, as a replacement for the late Paul Manship, the sculptor.

Mr. ANDREWS of Alabama. Were they well-known architects in AIA circles?

Mr. CAMPIOLI. Yes, sir.

LANDSCAPE ARCHITECT

Mr. ANDREWS of Alabama. Who is the landscape architect?

Mr. CAMPIOLI. Gilmore Clarke, former chairman of the Fine Arts Commission. He is a very successful practicing landscape architect. He used to be the head of the School of Architecture at Cornell University.

Mr. ANDREWS of Alabama. And are all of these architects and engineers in favor of the plan 2?

Mr. CAMPIOLI. Yes, sir.

PRIMARY REASON FOR EXTENSION PROJECT

Mr. ANDREWS of Alabama. Is this project presented now on the basis of the structural condition of the buildings?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. You are not basing your request at this time on the need for more space, are you?

Mr. CAMPIOLI. No, sir; although that is one of the benefits that will be derived from doing it.

Mr. ANDREWS of Alabama. So the request at this time for this project is based solely on the structural condition of the building which you have described to the committee?

Mr. CAMPIOLI. Yes, sir.

BASIS FOR COST ESTIMATES

Mr. ANDREWS of Alabama. As to the estimated costs shown on pages 23 and 24, you first update the 1967 cost to the present and then you add an assumed cost escalation of 7 percent compounded annually over the estimated construction period. Is this exactly the method you followed in arriving at the $90 million figure on the Madison Library project?

Mr. CAMPIOLI. Yes, sir; the only difference being that on the Madison Library project, a new building, we figured, the original estimate, with 3.2 percent escalation for a period of years from the time of the preliminary report, and estimate of cost. This being a more complicated job with more expensive materials involved, we originally figured a 3½ percent escalation.

Mr. ANDREWS of Alabama. And what factors did you use to bring the 1967 figures up to date?

Mr. CAMPIOLI. We used the records of the professional journals, such as reported every year by the Engineering News Record.

Mr. ANDREWS of Alabama. And what has been the general construction cost rise this year and last year?

Mr. CAMPIOLI. Last year it was 7.46 percent. This year the present indications are that it is running 10 to 12 percent. The administration and the legislative branch have indicated a desire to curtail or reduce the amount of escalation and for that reason we have not been using the higher 10 to 12 percent figures. We used the 7 percent figure, assuming the administration and the Congress would be successful.

CONTRACTING PROCEDURE

Mr. ANDREWS of Alabama. What would be the contracting procedures followed? Will they all be by advertised, sealed, competitive bid procedure?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS. I assume of course this would not be true with the A. & E. contracts.

Mr. CAMPIOLI. No, sir. They will be made on the percentage of a lump sum figure based on 1966 estimate.

Will you negotiate the contract for A. & E.?

Mr. HENLOCK. We already have a contract providing for such services. We propose to amend that contract and reduce the rate of fee so that the architects may proceed with the new plans as now approved. When the contract was let originally, it was drawn to cover any and all work that was contemplated or would be performed under the General Authorization Act.

Mr. ANDREWS of Alabama. How much of the $300,000 appropriated recently, within the last year or two, has been spent for A. & E. fees?

Mr. HENLOCK. $240,000 for the preliminary plans.

Mr. ANDREWS of Alabama. Will that be applied to the cost of the final fee?

Mr. HENLOCK. Yes, sir. The fee will be reduced by that amount. It will be applied to the total fee and the fee reduced accordingly.

ADMINISTRATIVE COSTS

Mr. ANDREWS of Alabama. On page 2 you show $150,000 for administrative and miscellaneous. How was that figured and what would it be used for and how will you spend it?

Mr. ROOF. Mr. Chairman, this is more or less a guesstimate. Mr. Campioli will need some help on this.

Mr. ANDREWS of Alabama. This will be spent in-house by the Architect's Office. Over what period of time is it based?

Mr. ROOF. About a year and a half.

Mr. ANDREWS of Alabama. Who would you put on this roll, assuming you got the funds? How many employees would you envision?

Mr. ROOF. We haven't made those decisions yet. I know several employees will be required. I know Mr. Campioli will want Mr. Kuhn's services on this work.

Mr. ANDREWS of Alabama. Will there be any travel involved?

Mr. ROOF. I doubt it. If so, it will be a minor item.

AVAILABILITY OF MARBLE

Mr. ANDREWS of Alabama. Is there a good supply of good marble still available in this country?

Mr. CAMPIOLI. Yes, sir.

STONE SPECIALIST

Mr. ANDREWS of Alabama. I understand you are one of the outstanding stonemen in the country, Mr. Kuhn. I understand before coming here your home was Lubbock, Tex., the home of our committee chairman. Do you have anything you would like to say?

Mr. KUHN. Mr. Campioli has covered the processes involved and I fully concur in his views.

Mr. CAMPIOLI. Mr. Kuhn supervised the fabrication and installation of the marble on the east-central front. If the west-central front were authorized, he would follow that work through the various plants of the marble and granite industry. He has had a lifetime experience in stonework.

Mr. ANDREWS of Alabama. Do you plan to employ him in the Architect's Office?

Mr. CAMPIOLI. He is now on our staff, but if the project goes forward, I would certainly want him assigned to it.

Mr. ANDREWS of Alabama. How long have you been on the staff, Mr. Kuhn?

Mr. KUHN. Eleven years.

Mr. ANDREWS of Alabama. All right, Mr. Yates.

RESTORATION

Mr. YATES. Mr. Campioli, I read from the report of the AIA dated May 5, 1967, which appears beginning on page 786 of the record of hearings for legislative branch appropriations for 1968:

> Restoration techniques: The walls and foundations of the west front of the Capitol are structurally inferior when tested by today's standards. However, retention and repair of the existing walls is not infeasible. No authority, including the Architect of the Capitol, contends that restoration is impossible. It would, of course, be a delicate and time-consuming proposition, but our technology is up to the task. Restoration work done on historic buildings in Europe indicates that walls and columns which have deteriorated have been reinforced effectively by a system of drilling diagonal holes through the masonry, inserting reinforcing rods and forcing grout under pressure into the holes. Another successful technique, called needling, involves the use of temporary steel beams to take the load off parts of the wall while other areas of the wall are being repaired. Similar or even more innovative methods could be applied to the west front.

What is your comment on that?

COMMENTS ON AIA STATEMENT WITH RESPECT TO RESTORATION

Mr. CAMPIOLI. I think what is said there is correct, but the question is what price are you willing to pay? By that I do not mean in money. I mean in regard to risk and hazard. Are you willing to take the risk that when we get through and remove whatever supports are installed, whether we provide them through needling or shoring or bracing, that these arches are going to stand up and not fall on the heads of the occupants?

The AIA says that they have the know-how. Yet, at the same time, they recommend going to talent abroad, which means they do not have the know-how; otherwise there would be no need to go abroad.

But they are comparing this building to the buildings abroad that were built in countries where there were excellent mechanics and labor who had built buildings of stone for centuries and knew how. Here we were an infant country. We had to use as many mechanics and skilled laborers as we could import. The looks of the construction of the interior or core of this wall would indicate most of them were of the apprentice type. They were certainly not journeymen mechanics.

So, we have a building here which was built as good as it could be built in that period in the history of our country, considering its small population and small resources, but cannot be compared with buildings that were being built at the same time in Europe with skilled craftsmen and mechanics who had come down from generation after generation, stonemason, who was a son of a stonemason and the grandson of a stonemason and so on.

Mr. YATES. You are saying, then, that the AIA made an improper comparison when it compared the buildings that were the subject of its comment in its report with the Capitol. There are different stones, different construction. Such a comparison is not really valid?

Mr. CAMPIOLI. In my opinion, it is not, because you are comparing this building with buildings that, in my opinion, are much better built structurally.

Mr. YATES. Having said that, though, do you mean to indicate that we could not do it by the techniques that are available in this country?

Mr. CAMPIOLI. If you are willing to take the risk and the hazard and spend the money, it possibly could be done. However, as I said before, it is not a permanent solution.

Mr. YATES. You mean this would be a constant task?

Mr. CAMPIOLI. In 20 years you would be faced with it again, because you cannot provide for expansion and contraction in that kind of operation of repairing this wall.

HAZARDS INVOLVED

Mr. YATES. When you talk about the risk and the danger, are you talking about the risk and danger that would be inherent during the construction process or during the restoration process, or were you talking about the risk and danger that exist today and would exist in another 20 years?

Mr. CAMPIOLI. I was talking about the risk and hazard that would occur during construction and especially after completion of the work, after the removal of all of the shoring.

MOVEMENTS OF BUILDING

Mr. YATES. In the same report on page 785, this appears:

There is no direct evidence that lateral thrust in the present west front has caused problems.

I get a different impression from the testimony.

The Capitol Architect staff engineer reports that the building is not out of plumb. Thus, while the Capitol is experiencing some vertical settlement, it is not slipping down the hill.

In short, none of the above-mentioned defects appear to indicate that danger of collapse is imminent or that correction is not practicable. Furthermore, since lateral thrust is not presenting major structural problems, doubt is cast on the need for a buttress, although this is one of the arguments made by those who favor an extension.

What is your comment on that, Mr. Campioli?

Mr. CAMPIOLI. I do not understand that quotation for this reason. We have been taking readings over the last year. We just completed our fourth set of readings. In each set of readings that we have taken, we have 88 points that we check approximately every 3 months for horizontal movements. This work is done by outside surveyors, not by our office, but by professional outside surveyors. We also have 40 points that we have been checking for settlement or vertical movement. The majority of these points indicate that the wall has moved outward. At each one of the readings the movement, depending on the areas chosen, the gross amount of movement in a section of the wall, has amounted to anywhere from an eighth of an inch to three-eighths of an inch for one of the walls of the west front.

In addition, these readings have indicated a settlement of up to a quarter of an inch during this short period of time.

Because a wall is not out of plumb, does not mean it cannot move. This wall can move down the hill and remain plumb.

It does not mean because it moves it has to tilt out. Eventually it will tilt out, of course.

To begin with, when the movements are small, the wall can slide down the hill and remain vertical.

THOROUGHNESS OF STUDIES

Mr. YATES. I recognize that you have a responsibility in assuring that the Capitol does not collapse or that the walls do not buckle, that the AIA does not have. The question that came to my mind as I read this was whether the AIA task force made the investigation itself, or whether they took your word for what was happening.

From their report, it appears that they met on November 16 and 17, 1967, and that on November 16 they went through the building with you on a tour.

Mr. CAMPIOLI. Yes, sir.

Mr. YATES. Was that an adequate examination, in your opinion?

Mr. CAMPIOLI. They spent part of a day, I would say about half a day, in my office going over the drawings and whatever information we had, and then spent the remainder of that portion of the day outside, examining the exterior of the wall.

That is contrasted with the long period of time given by Dr. Clair to the investigation into the condition of the west central wall, which took over a year and the long experience we have had with the problem.

AIA DISPUTE

Mr. YATES. Apparently the dispute that the AIA has is on the question of whether the original wall should be retained as an historic preservation, or whether it ought to be extended.

Reading through the testimony that appears in that hearing, they indicate further they have no quarrel with the design of the extension. It is not a matter of esthetics. It is a matter of whether the Congress decides that the wall ought to be preserved as it was originally, and steps be taken, no matter what the cost, really, in order to preserve that wall; or whether or not the extension be undertaken.

The point they make is that if additional space is needed, like offices or an additional restaurant, that should not be the subject of this consideration, but that could be done in other buildings, perhaps.

RESTORATION AND EXTENSION COSTS

Insofar as the costs are concerned, Dr. Clair commented that the cost of restoring the wall would vary between $10 million and $50 million. At the time he made that estimate, what was the estimate that the extension would cost?

Mr. CAMPIOLI. About $35 million.

Mr. YATES. What is that estimate today?

Mr. CAMPIOLI. Up $10 million because of escalation.

Mr. YATES. Would you say Dr. Clair's estimate of the restoration of the wall should be similarly uprated in the same proportion?

Mr. CAMPIOLI. Yes, sir.

Mr. ANDREWS of Alabama. We have two of our colleagues due here at this time.

Mr. Bow?

Mr. Bow. No questions.

Mr. ANDREWS of Alabama. Mr. Andrews?

Mr. ANDREWS of North Dakota. No questions.

Mr. ANDREWS of Alabama. Mr. Langen?

PROBLEMS ENCOUNTERED IN EXTENSION

Mr. LANGEN. I have just one brief question, if I may, Mr. Chairman.

You have presented a rather impressive case for the need of improvement to the west wall. You have done so in a manner which indicates that there are some real advantages both in construction methods as well as in the final outcome if we put an extension on the Capitol.

What puzzles me is that you have to deal with the weaknesses of the old wall, and how are you going to correct all that in connection with the extension without having many of the very same problems that you indicate would be problems if you just restored the old wall?

Mr. CAMPIOLI. To begin with, underpinning the wall would take care of this settlement problem.

Then we would provide supports for the wall, buttress the wall during the construction. As each floor went up, the first floor would act as a buttress to the existing building at the first floor.

Then we would have reinforced concrete columns going up against the existing wall to buttress the area between the floors. That work would be done on each floor. Each floor slab and the columns would buttress the existing wall.

When we get to the roof, we would cover over the present west front wall. The wall would become an interior wall. It would no longer be subject to the variations of temperature, from zero to 100, and it would work like any other interior wall in the building, with the same temperature exposure on both sides; whereas now it has 75 on one side all year around, and anywhere from zero to 100 on the outside. The interior faces of the west walls are not furred and the plaster is applied directly thereon.

Mr. LANGEN. Basically, that old wall would remain intact, with all of this bracing.

Mr. CAMPIOLI. Yes, sir.

Mr. LANGEN. Then it would be covered so that it would become a part of the interior of the building.

Mr. CAMPIOLI. That is correct. The wall would not be removed except for the upper part of the portico. That is the only major item that would be removed, except for a portion of the terrace.

Mr. LANGEN. I understand, too, there is quite some advantage in having an extension because the entire job can be let on contract.

Mr. CAMPIOLI. Yes, sir.

Mr. LANGEN. As compared to the restoration, which would have to be done on a cost-plus basis.

Mr. CAMPIOLI. That is correct.

Mr. LANGEN. That is all, Mr. Chairman.

PROVISION FOR VIEW OF OLD WEST WALL

Mr. YATES. May I ask one more question?

I get the impression from reading these hearings that if the extension is undertaken, you will still be able to see the original west wall.

Mr. CAMPIOLI. We will leave parts of it exposed, the same way as we did on the east front. We left portions of the old east front wall exposed to view.

Mr. YATES. So, the original wall could be seen?

Mr. CAMPIOLI. Yes, portions of it from the interior.

Mr. YATES. Of course, from the interior.

Thank you.

Mr. ANDREWS of Alabama. Thank you very much.

Mr. ANDREWS of Alabama. Mr. Yates has a few questions for you, Mr. Campioli.

AFTERNOON SESSION

COST OF STUDY OF COST OF RESTORATION

Mr. YATES. Mr. Campioli, earlier today we had the recommendation of the American Institute of Architects that the wall be restored rather than an extension be built. Two of our good colleagues earlier today also urged us to do the same. What would be the cost of a study of the cost of restoring the wall of the west front?

Mr. CAMPIOLI. I am pretty sure it would be more than we paid for the study of the examination of the condition of the west front. I do not see how a study would make it possible to reveal an accurate estimate of cost, as I am sure in such a study you could not propose the removal of every stone to find out how deep each stone is. Or, to remove a representative number, to try to establish a pattern, as the cost would still be subject to the final removal of the stones—the actual condition, and so forth, found.

RESTORATION OF WHITE HOUSE

Mr. YATES. Before the White House was restored, was there a study made of the cost?

Mr. CAMPIOLI. I do not recall, except that I do remember that when the White House was restored the Architect, Lorenzo Winslow, came to Williamsburg to see me to seek my advice on how to go about the work. The way they went about it was a very simple matter and were we able to follow the same procedure in the Capitol, we could restore the west wall. Their procedure consisted in gutting the whole inside of the White House, with only the four walls and roof remaining.

WAYS OF RESTORING WEST FRONT

Mr. YATES. Is that the only way you can restore it?

Mr. CAMPIOLI. Either that or else shore up all the interior rooms on the west central part after vacating them first for a period of 5 to 10 years or more, maybe 12.

Mr. YATES. Why do you have to do it for 10 years?

Mr. CAMPIOLI. Restoration requires a very careful operation and results in a slow process because of the fact as I explained this morning there are at least 21 continuous cracks from top to bottom that would have to be taken one at a time from the bottom to the top and that area rebuilt and allowed to set up before one can go to the next crack. That becomes a slow process for another reason, one would not be able to cut the stones in advance for their depth. They can only be cut for the width and the height as that is all that can be seen. When the defective stone is drawn out of the wall and its depth is measured, then the new stone can be cut to the proper depth in order when it is set back it goes into the same void where it came out.

Mr. YATES. Are you suggesting that you would have to make a study

to see whether you can make a study of the cost of restoring the wall?

Mr. CAMPIOLI. I am saying that I do not believe the study would be worth the money or the effort that would be put into it because it could not be conclusive.

It would only be somebody's guess as to what might be involved. You cannot conceive or predetermine what the conditions are that exist in that wall. There is no record of its makeup. We have no drawings. We only removed four or six stones during the exploratory work. We only have a representative picture based on those few removals. We did not dare remove many more. We did drill holes, 3½ inches in diameter, in an effort to get a more complete picture that way. We found that the stone core was more or less uniform. There was no bond between the outside sandstone and the interior finished stonework, that is, the interior rubble stone. There is a loose core in between. This work is not like it would be done today. If one does a bonded stone job today, one alternates every course such as 6 inches and 10 inches or 8 inches and 12 inches. Then you know after you have determined which is your 8-inch course and which the 12, each course will alternate that way all the way up the wall.

Mr. YATES. You are telling this committee that making a study is not practical?

Mr. CAMPIOLI. I would not recommend it because I do not believe it would give you the picture you are seeking with any assurance. I think you might go ahead on the premise that would be a hopeful one and once you got into it you would find that the end result would bear no resemblance to what you had in the report.

Mr. YATES. Is there an alternative to a strict restoration of the wall that the AIA advocates and the extension that apparently you advocate?

Mr. CAMPIOLI. I do not know what they have in mind, other than what they put in their report. I have heard some people say that they have been entertaining a cosmetic treatment which would include the taking of sandstone, grinding it up with an admixture and pre-molding it and glueing it to the existing stone with epoxy. I have indicated that such a procedure would not work and it would not be permanent.

Mr. YATES. If that is what their viewpoint is, it was not revealed when they testified here today. I asked them what they meant by restoration, whether they want the same condition on the west front, whether they propose to hang the wall on an inner structure because apparently the wall would not stand up beyond 20 years.

I must say in all frankness I did not get a very clear picture of what they propose to do except it was an effort to retain the historical value of the wall. I want to do that if that is possible. That is why I have asked the chairman to call you back here this afternoon, to see whether this was possible, to undertake this kind of a restoration in the hopes that it would not cost as much as an extension. The first step obviously is to get a study of what the cost would be.

VALIDITY OF COST ESTIMATES

In interrogation now you indicate you just cannot envision that kind of a study because you would almost have to take every stone out to look at it.

Mr. CAMPIOLI. You can judge from Dr. Clair's own estimate. He gave you a wide range from $10 million to $50 million. To him, even though he studied this problem, such a restoration is so indeterminate at this time that he gave you a very wide latitude there. Ordinarily, you would say, what kind of an estimate is that, $10 to $50 million? Ordinarily you would expect $40 to $50 million or $10 to $20 million, but not such a spread. But it is anybody's guess what that work would cost.

Mr. YATES. How much of a study did he make of the possibility of restoring the wall?

Mr. CAMPIOLI. He went into every possible consideration. We asked him to and he did. In his report and his final analysis he wrote one paragraph covering each item he considered. He was criticized by opponents of the extension because he devoted only one paragraph to restoration. In all fairness I should say that he devoted only one paragraph to extension, too. It was a five-volume report. It was mostly a report on the condition of the west-central front wall, as was required. His recommendations were only conclusive as a result of his detailed study.

Mr. YATES. Mr. Campioli, you have given us an estimate of approximately $44 million to extend it.

Mr. CAMPIOLI. Yes, sir.

Mr. YATES. It has been suggested that this is just a beginning and that the cost is likely to be $60 or $70 million.

Mr. CAMPIOLI. If higher escalation continues, even without making any changes, the $45 million price is not going to hold. If the escalation should go to 10 or 12 percent, naturally that total cost figure would increase.

Mr. YATES. This is not going to be like the C–5 in the military.

Mr. CAMPIOLI. I hope not.

Mr. YATES. I hope not, too, that is why I am asking the question.

OVERRUN OF COST OF EAST FRONT EXTENSION

Mr. CAMPIOLI. In spite of the fact that the east-front extension has been labeled as having cost $24 million—which it did not—it cost, on the contrary, $11,400,000. We estimated its cost based on preliminary drawings at $10,100,000. Considering the complex nature of a project like that and the many unknowns, I thought we made a fairly good showing on that. We ran over our original estimate by only $1.3 million.

OVERRUN OF COST OF RAYBURN BUILDING

Mr. ANDREWS of Alabama. What was the overrun on the Rayburn Building?

Mr. CAMPIOLI. Here again I take issue with some people on that matter. The estimated cost at the completion of preliminary drawings for the cost of construction of the building itself was $66 million. The final cost of the building alone, that is construction of the building, not including furniture, not including the subway tunnel, not including the cost of the land, was $71,500,000. Between the $66 million estimate and $71,500,000 cost there were additions to the original plans, such as the cafeteria was added by the Commission, the health suite

was added, the first aid rooms were added, the swimming pool was added, and there were a number of other items added, which could easily, when added to the cost of inflation and normal changes, justify the spread between $66 million and $71,500,000.

RESTORATION TECHNIQUES AT WILLIAMSBURG

Mr. YATES. Mr. Campioli, what did you do when you restored the walls of the Williamsburg buildings?

Mr. CAMPIOLI. The Wren Building was an old building still standing; it was vacated and extensively restored much the same as the White House.

Mr. YATES. Did you make an estimate of the possible cost before you did it?

Mr. CAMPIOLI. I was not there at the time, as that was one of the first projects done, but I knew about it and I also learned at the time it would have been cheaper to tear down what remained of the original structure and start from scratch. It cost more to restore that building than if they had rebuilt it from the ground up. That is true about restoration work. It is often cheaper to reconstruct than to restore; however reconstruction cannot be called restoration.

WHAT IS MEANT BY RESTORATION

Now you ask what they mean by restoration. I always assume, when you say that, you mean true restoration and you do not mean something else. That is, that you are going to restore that building to the condition that it was when it was first built and completed. That is what restoration means to me.

Mr. YATES. It differs somewhat from the testimony of the American Institute of Architects. He said he would try to keep as many stones as were possible, even with the erosion on them, to show their age. I thought you meant when you restored it to the original condition you would put new stones in.

Mr. CAMPIOLI. Oh, no. If any stone is not defective or cracked or in the way of other work it would not be removed. However you replace all the other defective stones with stones in sound condition as they were when the building was first built.

Mr. YATES. You have left us no alternative, as I understand your testimony, other than to extend the west front if we want to preserve and protect the Capitol.

THE HAZARDS OF RESTORATION TO BRICK ARCHES

If you were doing a restoration—could you do a restoration of the wall?

Mr. CAMPIOLI. Even if we could vacate the Capitol, I would not recommend restoration because of the risk and hazards. I still am very much uncertain as to what would happen to the arches in the building after the wall was restored and the shoring removed. There is no assurance that those arches will stay there.

Mr. YATES. Let me ask you this question then: What will the extension do to preserve the arches?

Mr. CAMPIOLI. We won't disturb the arches. The exterior wall remains and becomes an interior wall.

Mr. YATES. What is the condition of the arches, do you know?

Mr. CAMPIOLI. They are alright because they are still in compression. Nobody has every relieved them. If you shore them up, they go out of compression and they are just a lot of relaxed bricks in an arch and when you remove the shoring you do not know whether they are going to go back into compression or whether they are going to collapse.

Mr. YATES. That raises a question in my mind. Do you know what the condition of the Capitol is other than this wall? Are there other places in the Capitol where there is a possibility of the arches collapsing?

Mr. CAMPIOLI. Not that I know of; no. There is no indication of it. There are no signs of serious cracks.

Mr. ANDREWS of Alabama. The possibility of the collapse of the arch depends upon the stability of the exterior wall; is that right?

Mr. CAMPIOLI. Yes, and if this wall remains and becomes an interior wall, at this floor level we will have a new slab at each floor level against this which will keep that wall from moving out. We will also have columns going up the building at each floor level that will keep this wall from bulging out. We will have another floor slab at the roof level that will hold that wall, just as we did on the east front.

At the other side of this east front corridor wall—outside of this room we are in now—against the old building, this third floor slab runs right up to it. In order for that wall to collapse it would have to push this whole addition out.

Mr. ANDREWS of Alabama. The stability of the arch depends upon the stability of the wall.

Mr. CAMPIOLI. Of that exterior west wall.

Mr. ANDREWS of Alabama. And what you propose to do is put something on the outside of that wall to fortify and strengthen the wall?

Mr. CAMPIOLI. That is correct; and leave this wall as it is and let it become an interior wall completely protected from the weather where this wall will have a constant temperature exposure on both sides of the wall. Just as in this room, that wall there has 75° most of the year. The outside face of the west wall can vary from zero in winter to 100 in the summer. You have expansion and contraction on the outside and you have none going on inside. You have a fighting of these two vertical layers of the walls against each other. At 100° the sun will expand this section of wall a quarter of an inch more than the interior face of the west wall and that is enough to create cracks.

TEMPORARY NATURE OF A RESTORATION EFFORT

Mr. ANDREWS of Alabama. Let me ask you one further question. Did you tell us this morning that if we followed the restoration route you would have it to do over again in 20 years?

Mr. CAMPIOLI. Yes, sir; within 20 years which I spoke of as a generation. That is my opinion because there is no way to arrest the expansion and contraction. To follow restoration as recommended by AIA, with the insertion of holes in here with pressure grouting and rods and things like that, will make this wall a solid wall, if you can hold it, and then when there is expansion on the outside when it is 100° outside and 75° inside, and then shrinkage develops during the winter and there is zero outside and 75° inside, the cracks will occur and those cracks will

carry through to the inside plaster. Right now, with this loose masonry in the core here, there is a possibility of the outside surface working independently from the inside surface without extending the cracks on the outside to the inside.

CONDITION OF NORTH AND SOUTH WALLS

Mr. YATES. We have corrected the eastern front and now you propose to correct the western front. How about the north and south walls?

Mr. CAMPIOLI. Those are relatively new walls. They are a little over 100 years old. They were built of marble. They are not built of sandstone. This west central portion is the last section of the Capitol which has the seriously cracked and deteriorated stone. The rest of the Capitol is all of marble and if this west central section were extended and built, then the entire Capitol would be of marble.

PERIODIC INSPECTIONS OF CAPITOL

Mr. YATES. The next question coming to my mind is this: Having corrected this, need you worry about the second story and the superstructure, the structure where the dome is?

Mr. CAMPIOLI. No, sir.

Mr. YATES. How frequently do you examine the Capitol? Does anybody go through the Capitol periodically looking for cracks and defects?

Mr. CAMPIOLI. On this exterior portion, Mr. Kuhn of our office makes an inspection of that area about once a week with a pair of high-powered binoculars from the terrace and looks over that wall. We have a record of all the visible cracks in that wall and since he made a report a month ago four new cracks appeared; two on the return of the Senate wing; two occurred here next to Senator Dirksen's office on the north side of the old wing and two occurred on the House side return wall south of, and below the document room and Statuary Hall.

Now again, cracks can only occur in those return walls if this west wall pushes out. The west wall is certainly not going to push the building east. If cracks develop in these return or end walls, it is opening up and for it to open up this west wall has got to move out.

Mr. YATES. How about the ceilings? How about the domes and ceilings on the second floor? Does anybody look to see whether there are cracks there?

Mr. CAMPIOLI. We have detected a number of cracks along the first floor on the west side in the enrollment clerk's office, in the doorkeeper's office and in other areas.

Mr. YATES. That is the west front?

Mr. CAMPIOLI. That is along the west front.

Mr. YATES. But now, how frequently do your people look through the whole building?

Mr. CAMPIOLI. We have maintenance men that are on tour of the building practically all the time for one reason or another.

Mr. YATES. Do they inspect to see what the condition of the walls is?

Mr. CAMPIOLI. Yes, sir. Our painting inspector goes around and usually examines those areas and if he detects cracks or falling of plaster, he calls it to our attention.

STABILITY OF THE DOME

Mr. YATES. I was once told that there was some danger of the Capitol dome sliding off. Is there any such danger?

Mr. CAMPIOLI. Not in my opinion because, as I said this morning, there is a tremendous thickness and weight of heavy wall construction underneath the dome. In my opinion this whole west wing could fall off and I think the dome would still stay there.

Mr. YATES. That need be no worry.

Will the extension of the west wall strengthen the—that possibility doesn't exist but will this be an additional support against such a possibility?

Mr. CAMPIOLI. I would say so.

There is one minor part of the dome that might fail. The dome you know is not the original dome. The original dome was right over this rotunda. The new dome extends beyond these supporting walls and the lower skirt of the dome is cantilevered out. If this wing were to fall off, let's say——

Mr. YATES. Do you mean the west front?

Mr. CAMPIOLI. Yes. This skirt on the west side of the dome would fall off because it is supported on beams which span across these courtyards. If the west wing failed, the beams would fall off and that lower skirt, which is cantilevered out and is made of cast iron, would fall off, but the dome structure itself would not come down.

Mr. YATES. You talk about the west front falling. There is no danger of that, is there?

Mr. CAMPIOLI. I was only answering your question, sir. I am not saying it is going to fall down. I think sections of it are going to continue to fall down as they have been doing.

As you see down below here on this diagram there is a skirt which extends beyond the foundation of the dome and that skirt is cantilevered. That is the only part that could fall off if there was a failure, in my opinion.

Mr. YATES. Is there anybody who would disagree with you on the extension being the only practical course, do you think?

Mr. CAMPIOLI. I am sure you could find people to disagree with me, just like you find lawyers on opposite sides of an issue.

Mr. YATES. You have presented a very, very strong case. With due respect to the American Institute of Architects, as much as I would like to support their position, I don't know how I can in the face of this testimony.

Mr. CAMPIOLI. Mr. Yates, I think I have an advantage over the other architects you mention because I have been associated with this project now for 12 years and we have been studying it since 1957. Therefore, I think I have learned a lot about this building and what it is doing, more than any outside architect coming in cold for a brief spell. I think any competent architect who has the exposure to this building that I have had will eventually come to the same conclusions, but I think such mature conclusion may not be expected in the case of anyone coming here and just walking around the building, such as one of the great architects did, an architect of the century who said, "I just drove around the Capitol. There is nothing wrong with it. Leave it alone."

Mr. YATES. With your background, having worked, and being in an important position of working for the restoration of the buildings in Williamsburg, wouldn't it be your natural inclination to preserve this wall intact if you could?

Mr. CAMPIOLI. It would. If we could vacate for perhaps 10 years the entire sections of the Capitol between the House and Senate wings, excepting the new east front extension, and gut the inside of most of the vacated areas, except the Rotunda, similar to what was done in the case of the White House and the Wren Building at Williamsburg, then we could leave the exterior west walls standing, restore them, and rebuild the gutted interior sections of the building with new masonry bearing walls, new reinforced concrete floor construction, and new suspended ceilings constructed in such manner as to reproduce in appearance the old arched ceilings for esthetic effect, without incurring the risks and hazards that would be encountered in other methods of restoration.

Mr. ANDREWS of North Dakota. Then what would happen to the paintings on the interior walls?

Mr. CAMPIOLI. You would lose all that art work. That is also what you would do with preservation or restoration. If you gunite these walls wherever you have paintings on the ceiling, that gunite would come through the ceilings and those paintings would be lost.

Suppose you were to start to gunite in here (pointing to drawing), that guniting would fill all this sand fill. That sand would become a solid mass of concrete. Then that mass puts an additional load on these arches here, plus the fact that that guniting would come through the ceilings. There is no way to stop it in spite of claims to the contrary. It would come through the walls. If this happened to be a decorated ceiling, all your decorative painting would be lost.

LENGTH OF EXTENSION OF WEST FRONT

Mr. YATES. Why will portions of the proposed west front have to project as much as 88 feet? Why must it project out farther than the east front?

Mr. CAMPIOLI. The projection on the east and west central fronts of the Capitol have always differed. On the east side, prior to its recent extension, the central portion of the building behind the portico did not project at all but was situated approximately 7½ feet in back of the east walls of the two adjoining old north and south wings which, together with the central portion and portico and Senate and House connections, constitute the sections of the east central front of the building that were extended.

By contrast, on the west side, the central wing or portion behind the portico now projects approximately 72 feet beyond the adjoining old north and south wings, requiring a greater extension on the west side than the east side. The proposed projection is necessary to allow for sufficient extension of the old north and south wings beyond the existing west central wing in order to permit the development of a proper lateral buttressing action against the existing northwest and southwest corners of this wing, and also to provide a sufficient area for the development of a necessary and proper expansion joint in the new work at these corners.

Mr. YATES. Can you not expand that answer? What precisely must be done which will require a projection in part twice as far as the east front?

Mr. CAMPIOLI. The new proposed extensions of the portions of the west front immediately west of the old or original Senate and House wings must be extended sufficiently to exceed the projection of the present west central wing for the reasons just stated. If a lesser projection were considered, it would not be possible to overcome the conditions just mentioned at the corners of the existing west central wing. Any appreciable reduction in the proposed projection would leave exposed to the elements and subject to further deterioration the already deteriorated northwest and southwest corners of the present central wing and would also make it impossible to provide an effective waterproof joint between the old and new construction and make impossible the installation of a proper expansion joint. I think if you will look at this drawing, it will assist you in visualizing the conditions at the two corners which make the 88-foot extension mandatory.

Mr. YATES. Mr. Campioli, as I told Chairman Andrews, I wish this had been a public hearing and I wish the press had been here. I must say, I wanted just a simple restoration of the wall—if you can use that phrase. I don't think there is such a thing as a simple restoration of the west front, but I can't see now any other alternative to the extension. I really can't in the face of your testimony.

Mr. CAMPIOLI. That is the conclusion we have come to.

Mr. ANDREWS of Alabama. Thank you.

(CLERK'S NOTE.—The testimony on pp. 114–141 *preceded* the testimony on pp. 106–114.)

STATEMENT OF HON. JAMES H. SCHEUER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. ANDREWS of Alabama. Come around and we shall be glad to hear you.

Mr. SCHEUER. Mr. Chairman, I appreciate the opportunity to testify here today.

I have a prepared statement that I would like to present, but I would like to make a few remarks.

Mr. ANDREWS of Alabama. Let me suggest that you insert your prepared statement, and then you highlight it.

Without objection, your statement will be inserted in the record at this point.

Mr. SCHEUER. Thank you very much. My statement includes some excerpts from the Congressional Quarterly, if that is alright.

(The statement follows:)

Mr. Chairman, because of my long-term interest in architecture, planning, and, specifically, the architectural fate of the U.S. Capitol Building and its surrounding area, I am pleased to speak before you today concerning the decision to appropriate moneys to enable the Capitol Architect to generate prebid construction plans for a proposed extension of the Capitol's west wall.

I am expressing the interests of many professional architects, historians, and citizens when I strongly oppose the allocation of any moneys for any piecemeal addition to the Nation's most prominent edifice. I make my opposition on three grounds: (1) There is a painfully obvious need for comprehensive master planning of the Capitol region; therefore, it is architecturally and economically unsound to make ad hoc space additions like the west-wall extension; (2) there is a need for basic revision of the current practices of the Capitol Architect; (3) the proposed addition disregards important considerations of American history.

Let me state at the outset that it is apparent to me, and no doubt to the 11 million tourists who this year came to visit their Nation's shrines, that the west front of the Capitol is in need of attention. It should be a source of shame to the Capitol Architect that basic, inexpensive, regular, normal, cosmetic, and structural maintenance has been so neglected. Before setting out on new, expensive building endeavors, I would admonish the Capitol Architect to perform his regular, routine maintenance responsibilities.

NEED FOR COMPREHENSIVE PLANNING

The proposed appropriation considered today would, if granted, allow moneys to produce prebid plans for the extension of the west front. By opposing the appropriation I am not advocating that we neglect the condition of the Capitol. On the contrary, my opposition is based on the well-accepted principle that piecemeal attempts to solve complicated, many faceted problems in the long run is inevitably wasteful and self-defeating.

The west wall may be in need of repair, but it stands only as a part of the total architecture and planning picture of the Capitol Hill complex. The Capitol, as the seat of the Nation's government, is under complex demands from a great variety of constituencies—the Senate, the House, the growing congressional staff, the public, the press—yet, to date, the Capitol Architect has made no effort, nor is it apparent that he is likely to make an effort, to assess the total current and future needs for space, facilities, and equipment, with a view of achieving maximum congressional effectiveness in an economical, efficient fashion. Although it is customary practice in virtually all Government building, and, indeed, in all intelligent modern planning. The Architect has made no effort to generate a master plan of the Capitol from which informed architectural planning and development decisions can be made. Without a master plan, extension of the west front is like playing a game of dominoes where we add a piece at a time with no idea of the final design.

It should be obvious, and is obvious to professional architects, that a unique building like the Capitol, a building which is both a cherished monument and a highly utilitarian structure should not be altered in a random fashion, on a piece-by-piece basis.

If new space is needed in the Capitol—and we know it is—how can it best be employed? In response to this question, Mr. Campioli, the Assistant Architect, testified that 25 offices anticipated under the proposed extension would have the following use:

"Mr. CAMPIOLI. Some of them (offices) would be used in connection with this committee. Some would be used to serve other functions as may be allocated by the Speaker of the House side or the Rules Committee on the Senate side."

Tell me, Mr. Chairman, is this informed, intelligent planning?

Mr. Chairman, I ask if new construction projected to cost $45 million, affecting the most famous building in the country can be seriously considered by a responsible legislative body, based on such nebulous and unscientific information? Mr. Chairman, we are all aware that the electronic age offers new and highly specialized facilities and systems which Congress urgently needs, and which any planning for new space in the Capitol ought to contemplate. What will be the electronic and computer needs, the personal and committee staff needs, and the press needs of Members of Congress in 10 or 20 years hence?

It is unthinkable that we could even begin to plan major alterations without exploring these and many other technical questions which affect the vital, long-term comprehensive needs of Capitol Hill. Let us plan systematically, let us master plan, in the jargon of the Architect, so we may identify our future needs before taking major and perhaps irrevocable steps.

NEED FOR REVISION OF PRACTICES OF CAPITOL ARCHITECT

Next, Mr. Chairman, I would like to note briefly that even if some extension of the Capitol Building were at some point in the future called for under a master plan, the current practices of the Capitol Architect do not allow for selection of the most imaginative, high-quality architects of this Nation. It is well-documented that over the years, the Capitol Architect has seen fit to select time and again, a small coterie of architectural firms to carry our Capitol Hill building projects. As a result, we in Congress have faced personal embarrassment with our constituents, not only—in the view of many authoritative observers—because of the ugliness of some of the work, but also because consistenly and repeatedly the estimated costs have enormously exceeded the final costs. In recent years, Congress has had to face embarrassment in the public press because of

tens of millions of dollars in added costs to the east-wing extension, the Rayburn Building, and the Capitol underground garages. Before undertaking any project so sensitive as alterations of the Capitol, procedures for obtaining the best and most economical architectural consultants and the most realistic cost estimates must be assured.

CONSIDERATIONS OF HISTORY

Finally, I oppose the building extension of the west wing for historical, perhaps sentimental reasons. The west wall is the last vestige of the original Capitol Building. It seems beyond our mandate in 1969 to bury the last wall which was publically acclaimed by the first two critics of the Capitol, President George Washington and then Secretary of State Thomas Jefferson. The west front is the only original section of the Capitol remaining with direct ties to Washington, Jefferson, and the endurance of this country through the British attack in 1814. The endurance of this Capitol Building during great stress was noted by Daniel Webster, expressing the concern of myself and millions of contemporary Americans, when he said: "And all here assembled, whether belonging to public life, or to private life with heads devotedly thankful to Almighty God for the preservation of the liberty and happiness of the country, united in sincere and fervent prayers that * * * the walls and arches, the domes and towers, the colums and entabulatures, may endure forever."

Gentlemen, I can not express strongly enough that Webster's immortal words express my profound feelings. To millions, the visual impressions of the Capitol Building and its very mortar convey symbolically the history, thus the values and endurance of the values of this country. There is a place for modernization and progress, but progress is not always achieved by indelible alteration of artifacts of the past. Let us through our monuments, be reminded of from where we came and to what we owe our most noble ideals. Preservation of the original section of the Nation's most important building is a debt we owe to posterity. It is beyond my comprehension why Mr. J. George Stewart in 1969 would wish to destroy the west wall and finish the job the British could not do in 1814. Why would Mr. Stewart destroy the wall gallantly defended, the wall where flames were heroically extinguished by citizens and soldiers of an earlier day?

Mr. Chairman, I am grateful for the opportunity to give you my analysis of and feelings about the architecture of the Nation's Capitol. I hope your committee will see fit to deny funds for this piecemeal venture under consideration. I shall continue to work for legislation to provide a master plan by which the Nation's finest architects can assess the future needs of the whole Capitol region as well as the Nation's needs to preserve and protect its historic and treasured monuments.

Mr. SCHEUER. I am grateful for the opportunity to appear here today.

I shall not deal at great length on the historical and esthetic aspects of this problem because, first of all, my colleague, Mr. Stratton, has gone into them in great detail, and he will be talking to you; and, second, you have heard in great detail from the American Institute of Architects on repeated occasions.

Mr. ANDREWS of Alabama. They are coming at 2 o'clock.

Mr. SCHEUER. So I will not be redundant.

Let me just say that I agree wholeheartedly with their views and Congressman Stratton's views on the esthetic and historical considerations that militate against making this change.

Let me say my views here are primarily produced by my own experience as a builder of over $100 million worth of Government-assisted housing before I became a Congressman.

It is my view that this project has not been carried out in a professional fashion; that the methods, and procedures, and systems used by the Architect of the Capitol are grossly inadequate to the challenge of the times; that their track record on large cost overruns is miserable and demonstrably inadequate, and that Congress ought to overhaul its technique of developing further Capitol Hill construction.

These 105 acres of the Capitol of the United States are the only urban acres in the United States that have never been subject to an overall and comprehensive master plan. They are the only orphan acres, the only underprivileged urban acres in the United States.

This militates against the esthetics as well as the effectiveness and economy of Capitol Hill development. When you plan a jigsaw puzzle or when you plan a mosaic, you plan the individual pieces so in the final analysis they have some relationship to each other. You do not play a game of dominoes, where you do not know where the squiggles are going to end. You plan a mosaic that has some rhyme and reason, and where the whole is greater than the sum of the parts, indeed, where the parts relate to each other.

We have never done such a simple, comprehensive master plan for Capitol Hill. That has militated against the convenience of all of us. There are 535 busy, harassed Members of Congress in both Houses. We as a group could make our work easier if we organized ourselves better, if we used some of the advantages of science and technology and the computer sciences and electronics to make our work easier, and more convenient.

We have never had a management survey of the needs of the Congress although it has been urged time and time again. It seems to me that to engage in space planning for this kind of facility without ever once having solicited the views of the 435 Members of the House and the 100 Members of the Senate as to what they felt their needs were, so these needs could be considered in this kind of planning, is wasteful and inefficient and grossly fails to serve the needs of the men on Capitol Hill, the 535 of us who need every assistance we can get in meeting the ever escalating demands of our offices.

I understand that part of what is contemplated in this addition is a dining room for the public. I believe we should serve the visiting public in Washington, and there will be a visitor's center not very many hundreds of yards from Capitol Hill, to do just this. But I am not satisfied in my own mind that there are not needs of Members of Congress that should be higher on our priority list than beginning the business of serving the public through a public cafeteria in the Capitol Building. Demonstrably, we can never begin to meet that need, anyway. We ought to begin more adequately to meet our own needs for additional space, facilities, and modern equipment, and systems.

Not to engage in the kind of management survey that any corporation would provide for in developing its expansion plans, or in considering the long-term needs of its executives, to my mind is unthinkable.

I strongly urge that, before any contract is let for architectural plans for additional space and facilities on Capitol Hill, we engage in a professional management survey of the needs of the Members of Congress, the 535 of us, the needs of both our personal staffs and our committee staffs, and then of the press, and finally, of the public, to the extent that we are able to serve public needs right here on Capitol Hill.

I have very grave doubts that, after we have completed such a management survey, we will find that providing public dining space in the Capitol comes ahead of the needs of the Members of Congress and their staffs, both committee and professional, and the press.

I do not see how we can responsibly approve the Architects proposal before we have at least made a minimum survey of the needs of Members of Congress, including, of course, soliciting their opinion of what kind of electronic and computer equipment and facilities ought to be made available to them.

I was astonished to hear the Architect of the Capitol state that he had doubts about rehabilitating this west front, and the fear that when it was all finished, the walls would come tumbling down.

I know something about the construction business, as I mentioned before. We have unquestionably the most sophisticated construction capability in the world right here in our country. Of course, if anybody would contemplate rehabilitating or restoring a building 100 or more years old, they would go abroad and see what has been done with the Christopher Wren Cathedrals and with Roman and Greek structures. They would be utterly irresponsible if they did not. But, we have architectural, engineering, and planning talent in our country second to none, preeminent around the world. As a matter of fact, governments abroad, before engaging in major architectural or engineering work, frequently come to our country to consult. If we can place a man on the moon, we have the capability of keeping the Capitol of the United States intact and safe.

Further, it seems to me that it should be a source of shame to the Members of this Congress that the Architect of the Capitol has not done the basic, inexpensive, regular, normal, cosmetic, and structural maintenance of this building that are his basic responsibilities.

As to costs, I fear that the Architect of the Capitol's cost record is so bad, his track record on construction costs is so appalling that we at least ought to confirm the statements that he makes to us about costs.

It is quite true, as he testified, that the cost of all construction over the past few years has gone up at the rate of 7 or 8 percent a year. As a matter of fact, architects, engineers, and builders now estimate that construction costs are going up at the rate of approximately 1 percent per month. Of course, as he indicated, that would be true for new construction or for rehabilitation.

The fact is, however, he was $35 million off on his cost estimates for the Rayburn Building, and he was some $5 million off on his cost estimates for the new Library.

When I was building Government construction, I never was as much as 1 percent off on over $100 million worth of construction, and I know from personal experience that a variation of more than 1 percent or 2 percent at the most is unnecessary, avoidable, and, if it happens frequently, it betokens lack of planning, lack of professional competence, and lack of a thoughtful consideration for the taxpayer's dollar.

It seems to me that the cost record of the Architect of the Capitol is so poor that in effect we are on notice that he is not competent to handle in an economical, efficient, cost-effective fashion, jobs of the magnitude that have been placed before him.

He has failed almost totally to take advantage of the enormous talent in our architectural and engineering fraternity. There is a small group of perhaps a half dozen architects that seem to have an unbreakable monopoly on work on Capitol Hill.

This has been adequately described in the Congressional Quarterly of July 7, 1967, pp. 1169–71.

It seems to me that the time is long since overdue when, from the viewpoint not only of the esthetics and historical importance of this building, but also from the point of view of a prudent concern for our own convenience, for meeting the escalating demands that are placed upon us, for the urgent need of members to have every tool, every facility, every new device of electronics and computer science to make us more effective in our work, and for a prudent concern for economy in expending the taxpayer's dollar—all of these militate for delay in approving this expenditure.

(The article from the Congressional Quarterly, mentioned above follows:)

SMALL GROUP RESPONSIBLE FOR CAPITOL HILL ARCHITECTURE

The recent history of construction on Capitol Hill reveals that a small number of architects are regularly involved in all major projects.

Since the appointment in 1954 of former Representative J. George Stewart (R., Del., 1935–37) as Architect of the Capitol, more than $250 million has been spent or authorized for Capitol Hill construction.

Under Stewart, who is not an architect but has experience as a landscape contractor, the east front of the Capitol was extended, the Rayburn House Office Building was built, remodeling projects were undertaken, parking garages were built, and plans were approved for the extension of the Capitol's west front and for a third Library of Congress building. Without exception, the names of a tiny and sometimes rotating constellation of architects are attached to all these projects. This has prompted charges that an architectural monopoly holds sway on Capitol Hill.

House Speaker Sam Rayburn, chairman of the 3-man House Office Building Commission, started the ball rolling in 1955 when the Philadelphia firm of Harbeson, Hough, Livingston, and Larson was chosen to design what was to become the Rayburn Building. Architect John Harbeson was a friend of Stewart.

A little later, three other firms—Roscoe Dewitt and Fred L. Hardison of Dallas, well known to Rayburn; Alfred Easton Poor and Albert Homer Swanke of New York City; and Jesse M. Shelton and Alan C. Stanford of Atlanta, well known to to the late Representative Carl Vinson (D., Ga., 1914–65), a member of Rayburn's commission—were brought in to work on related remodeling projects in the future. Dewitt and Hardison got the Cannon House Office Building remodeling job, Poor and Swanke the Longworth House Office Building project and Shelton and Standford the garage construction under and behind the Rayburn Building as well as the House-Capitol subway.

Meanwhile, also in 1955 under Public Law 84–242, a 5-member Commission on the Extension of the U.S. Capitol composed of the Speaker, the Vice President, the minority leaders in both House and Senate, and the Capitol Architect, was created to consider expanding the Capitol.

Because no remodeling work had been authorized yet on either the Cannon or Longworth buildings, Stewart hired Dewitt and Hardison, Poor and Swanke and Shelton and Stanford—who joined forces as Dewitt, Poor, and Shelton—to draw up plans for extending the Capitol.

For the Capitol job, an advisory panel was established consisting of Harbeson (whose firm would design the $100-million-plus Rayburn Building and earlier did the Folger Library), Henry Shepley of Boston, and Arthur Brown, Jr., of San Francisco, both now dead.

In 1957 Dewitt, Poor, and Shelton, who were also to do the design work for remodeling the old Senate and Supreme Court chambers, presented the Capitol Extension Commission plans for extending both the East and West Fronts. After bitter controversy, most of which developed in the Senate, Rayburn in 1958 pushed through the East Front project, which was completed in 1962 at a total cost of $24 million.

Subsequently, Dewitt, Poor, and Shelton were picked to design the $75-million James Madison Memorial Library, authorized in 1965. Stewart cited "the highly satisfactory" East Front project as the basis for the selection.

In 1966, the Capitol Extension Commission, then headed by Speaker John W. McCormack, Democrat, of Massachusetts, in a surprise move approved a plan for

extending the West Front at a cost of $34 million. Again the architects were Dewitt, Poor, and Shelton, who contended, with the support of the Commission, that they were hired in 1956 for all work (present and future) that might be done on the Capitol.

Mr. YATES. I want to ask the gentleman one question.

I like your suggestion about a comprehensive survey or plan for Capitol Hill, but we are dealing today with a problem that is more immediate. The question is what do we do with the section of the west wall of the Capitol which is continuing to deteriorate?

Mr. SCHEUER. I have advocated right straight along that we maintain the Capitol, and that we do the spackling and whatever is necessary to keep these buildings in safe and proper condition.

We have had several reports that the AIA and their consultants have produced that this building can be maintained in an efficient, totally safe fashion. For the life of me, I cannot understand why the Architect of the Capitol could stand by and permit this building to deteriorate in front of his eyes, and how we as Members of Congress could have permitted him to do so.

Any building requires normal maintenance. Even my project in southwest Washington which was finished only 10 years ago requires normal maintenance and upkeep. This is a part of the obligations of the Architect of the Capitol.

It seems to me outrageous that he should have permitted this building to continue to deteriorate and, indeed, according to his own testimony, to endanger the safety not only of Members of Congress but the public, too.

We ought to fix this building promptly, and there is no reason on earth that it cannot be done at a fraction of the cost of the new space that is being proposed.

Mr. YATES. That is the question. You say a fraction of the cost. That is contrary to testimony before us. The testimony which has been given to this committee is that it would not be a fraction of the cost. The engineer who made the survey—and nobody has disagreed with the engineering report, including the AIA—the engineer who made the survey said the cost of just restoring the wall itself would vary between $10 million and $50 million. The cost of the extension was listed at $34 million a few years ago, and is now estimated at $44 million.

Mr. SCHEUER. They both would have gone up in the last 2 or 3 years.

Mr. YATES. The point is that the cost of restoring the wall is the same as the cost of the extension.

Mr. SCHEUER. You just told us——

Mr. YATES. Not 10 to 15; 10 to 50. It varies within that spread. He says you cannot estimate the cost because of what you are likely to find when you get into the building.

Mr. SCHEUER. That is right. I have had some experience with rehabilitation.

Mr. YATES. We are given the choice of almost comparable costs, really, unless it comes out on the lower side of the estimate, between 5 and 50.

Mr. ANDREWS of Alabama. The restoration would have to be done by cost-plus contract. They would not know what they had to do until they got into it.

Mr. SCHEUER. If I may add, sir, in effect, the de facto practice of the Capitol Architect is for a building like the Rayburn Building, and the garage, to be built on a cost-plus contract, because that is the net result of what I consider to be the gross professional incompetence of the Office of the Architect of the Capitol.

You do not have a $35 million overrun on a $75 million building unless there is professional incompetence, or worse. Many allegations have been made that would open the door to suggestions and questions far more serious than anything I have raised or wish to raise today.

When you have a $35 million overrun on a $75 million building, you have a very serious situation.

Mr. YATES. I believe the gentleman from New York ought to review again his statement that the cost of restoring the wall would be significantly less than the cost of building the extension.

Mr. SCHEUER. We don't have the data on which to base such a decision. Let us leave that question open.

Mr. YATES. Yes.

Mr. SCHEUER. I think we have to. I quite agree with you we have to leave it open until we get into the wall and get more information about the conditions that will have to be repaired.

I think the question of how to use the space most effectively for the benefit of the Members of Congress is far more important than a few million dollars one way or the other. And I am impressed with the historical and esthetic considerations also.

Mr. ANDREWS of Alabama. Thank you very much, Mr. Scheuer.

STATEMENT OF HON. SAMUEL S. STRATTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

We have another distinguished Member from New York, Mr. Stratton. We will be glad to hear from you.

Mr. STRATTON. Thank you very much, Mr. Chairman.

I want to apologize for not having all of my ducks lined up exactly in a row here this morning. As you realize, the announcement of this hearing came to me as some surprise.

I do have one page of my statement prepared, but I do not have the others. Perhaps I could get these typed and then they will be available for members of the committee and for the record after what I have to say.

(The statement follows:)

Mr. Chairman, I appear here this morning in opposition to what I understand is a request this committee has received from the Commission for the Extension of the Capitol for $2 million to finance complete planning for the projected extension of the west front as proposed by the Architect and the firm of Thompson & Lichtner, Engineers.

This request and the action of this subcommittee in scheduling this hearing come to me as something of a surprise in view of the assurances that were given to me and to the House some time ago that nothing would be done on the west front until after the Vietnam war. But the war is still on, and our budgetary and inflationary pictures are even far more serious now than when that commitment was originally made. In fact the President of the United States has only recently curtailed Federal construction projects by 75 percent in an effort to stem inflation.

My opposition to the west front extension is, of course, no secret to members of this subcommittee. Let me summarize my position briefly, however. I oppose the extension for three reasons:

First, because it would cover up for all time the last remaining portion of the original historic Capitol Building, and would also seriously alter the basic architecture of the original west front in a way that the extension of the east front never did. I believe we have an obligation to do everything possible to maintain the basic structure of this building as a national shrine, and ought not to destroy it, hide it, or alter it other than what is absolutely necessary to preserve it from deteriorating or collapsing.

Second, I do not believe we ought to add on any additional spaces within the present Capitol, however desirable those spaces might be in themselves. It may be more inconvenient not to have to walk over from the Rayburn Building, but I do not believe the Capitol should be expected to provide any more office spaces or restaurant spaces now that we have the Rayburn building; and I certainly do not think the Capitol should be expected to include a visitors' center when we are already in the process of creating such a center in the old Union Station.

Third, I believe the west front extension scheme espoused by the Architect is just too costly for our needs. When it was first proposed in 1966 the estimate was $34 million. Mr. Stewart has now advised this subcommittee that the same project today will cost $45 million. On the basis of his advance estimates of the costs of the east front and the Rayburn Building, however, I would think a reasonable estimate of the final cost would run closer to $70 to $80 million. That is just too much to spend in the light of all our other priority needs.

The argument is being made today, however, and I assume it underlies the sudden request made to this subcommittee that fresh cracks are now developing in the west front and that unless this familiar extension project is begun without further delay the building will shortly collapse about us. Let me make it clear that I do not dispute the fact that the west front is in need of repair. Indeed I appeared before this subcommittee 2 years ago to urge that funds be appropriated to make some needed repairs on the building. Although my request was not approved by the subcommittee, I was pleased to see last year that the Architect finally did get around to cleaning up the west front, removing the bird droppings, and at last repainting the sandstone.

But the nub of my own position, Mr. Chairman, and the most incredible part of the whole west front extension story, is that no one has ever seriously studied what would be the minimum amount we would need to do to repair the west front, restore it to safe condition, and just how much that job would cost.

Instead we have only one plan which calls for a vast 4½ acre extension of the west front to include two restaurants and two theaters, several other rooms and additional offices, and even an escalator. And we are being told that the only possible way in which we can prevent the west front from collapsing is to implement in full all this elaborate expansion scheme.

But this is nonsense. Obviously no one can seriously suggest it would be impossible to prevent the west front from collapsing unless we install escalators or additional restaurants inside it. Of course the firm that developed the expansion plan claims that theirs is the only way the Capitol can be saved, but they have an obvious interest in their own project. We need the truth.

Over in the Pentagon they have a system known as cost-effectiveness. I am sure it is not a completely fool-proof system, but it does have an element of good business sense. Before they embark on developing a new weapon, they take a look at the weapon and then at alternative ways of dealing with the same problem, and then they compare the different alternatives both as to their relative cost and their relative effectiveness. This ends up by presenting our Pentagon planners with several "options," and from these options they can then select the best one in terms of greatest effectiveness and lowest cost.

This is what I think we ought to have over here on this side of the river too, Mr. Chairman. Before we take the first $2 million dollar step down the long road toward an ultimate expenditure of $60 to $70 million, doesn't it make sense for us to pause for just a moment to take a careful look at all the other options? Isn't there any other way we can repair and restore the Capitol without spending as much money as this 4½ acre restaurant cum escalator expansion project would involve? Isn't there some way we can keep the Capitol from falling down around the heads of Members of Congress without destroying its basic architecture or hiding the last remaining section of a very historical structure? Isn't it possible that we can repair the Capitol at a lesser cost than what we would have to pay to transform it into a giant Howard Johnson?

The blunt fact is, Mr. Chairman, that no one has paused to look into this simple question. I think we should look into it and therefore I urge this subcommittee not to appropriate the $2 million to start down the road on a $70 million project, but

rather to appropriate $100,000 for an independent, competent engineering study of exactly what is the minimum we need to do to prevent the west front from collapsing, and what is the reliable cost for such a project.

I am, of course, not an architect myself, but the American Institute of Architects says that they are convinced that this restoration job can be done more cheaply than the expansion project, and they are convinced that a reliable survey can be completed in a reasonable amount of time at a cost not to exceed $100,000. After all, we have already spent $447,835 in preliminary surveys of this expansion project and the elaborate model associated with it which is now enshrined in Statuary Hall. Surely it makes sense to spend another $100,000 if the end result will be to save us, let us say $10 or $15 million and at the same time preserve a historic building relatively intact.

Last year, the late Senator Bob Bartlett, of Alaska, wrote to the American Institute of Architects to ask them for certain comments on an address made by Mr. Mario Campioli, Assistant Architect of the Capitol, before a convention of the American Registered Architects. Mr. Campioli was defending the thesis that the only way to prevent the collapse of the west front was to get the restaurant-escalator expansion project rolling. Senator Bartlett wrote the AIA to ask them to comment on Mr. Campioli's statements. As the closing part of my remarks, I would like to read and include in the record the letter which the AIA had prepared for Senator Bartlett, but which, because of his untimely death, they sent instead to me.

The letter follows:

(AIA letter follows:)

THE AMERICAN INSTITUTE OF ARCHITECTS,
St. Louis, Mo., February 17, 1969.

Hon. SAMUEL S. STRATTON,
U.S. House of Representatives,
Washington, D.C.

DEAR CONGRESSMAN STRATTON: This is my belated reply to the late Senator E. L. Barlett's letter of November 25, 1968 (enclosed), in which he asked the American Institute of Architects to comment on a speech given by Mario E. Campioli, Assistant Architect of the Capitol, before the convention of American registered architects. Since you have long been interested in plans for correcting the condition of the west front of the Capitol, I am directing my reply to you.

The American Institute of Architects believes that the west front of the Capitol can and should be restored in its present location using existing sandstone where possible or new sandstone where necessary. Like any prudent owner, Congress should commission an impartial structural engineer to study all aspects of restoration and to recommend a program for restoration complete with cost and risk evaluations and detailing any disruption of Capitol activities. Only then will Congress be able to make an effective comparison between restoration and extension.

The questions which Senator Bartlett asked illuminate one glaring fact: No one knows exactly what restoration will entail.

The engineering report prepared in 1964 by Thompson & Lichtner (which was commissioned by the Architect of the Capitol) is devoted solely to the feasibility of extension—nowhere does it state that restoration is impossible. This report professionally justifies extension but does not professionally analyze the expected risk, cost, and disruption factors which would be encountered in restoration.

Without the benefit of a feasibility study we and the Members of Congress can do no better than to make educated guesses about the risk, cost, and the extent of restoration needed. Yet, we are certain that restoration is possible. On this basis, then, we answer Senator Bartlett's questions which were prompted by the picture of horribles painted by Mr. Campioli.

Will restoration of the existing structure entail vacating the entire west front for a period of 5 to 10 years?

By using modern technological developments, the entire west front would not have to be vacated for a period of 5 to 10 years. Only those spaces immediately adjacent to active restoration would have to be vacated.

Is it true that there would be no limit on risk or cost, if the west front were restored rather than extended?

Of course, there would be a limit to cost and risk of restoration. We firmly believe restoration will prove much less costly than extension (much structural repair must be done in either event). A feasibility study would provide Congress with cost information.

Does the structural preservation of the Capitol indicate an extension of the building to the west?

The structural preservation of the Capitol does not necessarily indicate an extension to the west. Structural preservation can be accomplished by several means, including either restoration or extension. We strongly urge Congress to choose restoration.

Senator Bartlett also asks: "Am I mistaken in believing that nothing of the original Capitol Building will remain if the west front were extended?" The Senator was not mistaken: the west front is the last remaining exterior portion of the original Capitol Building. And for this very reason, we argue that Congress should restore the west front.

As you know, the west front of the original Capitol Building is substantially unchanged from its appearance in 1825. In that year, Charles Bulfinch completed the original Capitol—Congress House—was completed and the legislators moved in. In 1807, the south wing was finished under the charge of Benjamin Latrobe. Bulfinch then completed Thornton's conception of the Capitol by constructing the central portion, including its west front. For reasons of economy, President George Washington chose sandstone as the building material.

In 1851, Thomas Walter began to add the present House and Senate Chamber to the north and south wings. At this time, too, he designed the present steel dome to replace Bulfinch's low brass dome which was dwarfed by the new wings.

No further changes were made in the Capitol until the late 1950's when the associate architects, commissioned by the Architect of the Capitol, J. George Stewart, extended the original east front 32½ feet in order to eliminate the impression that the huge dome overhung the original central portico. In so doing, Mr. Stewart also replaced the sandstone of the east front with marble. Thus, even though the original east front was preserved as an interior wall, it has disappeared from view.

Now the Architect of the Capitol and Speaker McCormack want to extend the west front in the same manner: replacing sandstone with marble and preserving the west front as an interior wall. If this is done, all vestiges of the original Capitol will be buried beneath marble.

Since 1800, parts of the west front have witnessed the unfolding of the story of the United States as a nation. Surely, now, when Americans are beginning to appreciate the heritage of their past, we can afford to restore the west front in its original place for historical reasons.

Thus, we urge restoration in order to bequeath to the future a reliable representation of an original portion of the Capitol in the place where it was built. Restoring the wall in its present position is important to preserve a position in time without change: a position in time which will be credible to generations of Americans now and in the future. Certainly in our hierarchy of buildings there is none more important to our Nation than the Capitol. If a small portion of it is not worth restoring, what is?

Finally, Senator Bartlett inquired about the institute's consistency in supporting restoration of the west front. Once again he points to the AIA memo (see enclosed article) of January 1958, which states in part: "It is believed that the space requirements could be better filled—and at far less cost—by leaving the east front alone and instead developing a proposed scheme for expansion of the west side of the building." The above quotation was contained in an article reporting the activities of the Committee on the Preservation of the Capitol which was not an AIA committee, but composed of a group of architects (some AIA members), architectural historians, as well as other prominent citizens outside the profession, to rally support against the proposed extension of the east front of the Capitol. This quotation is entirely out of context and misrepresents the institute's longstanding position in favor of restoration. The American Institute of Architects has never officially or unofficially espoused any proposal for extending the west front of the Capitol. While opposing destruction of the historic east front, and reporting activities of that nature, the institute has been cast by proponents of a west front extension, in the position of recommending extension of the west front.

In 1958, we urged restoration of the east front for historical reasons. Now, extension of the east front makes stronger our historical argument in favor of preserving the west front as the last remaining exterior portion of the original Capitol. Only Congress can and should make the decision to restore the west front. In so doing, Congress should not let its current and future space needs (which can and should be accommodated elsewhere) dictate; rather it should consider what our Capitol means to Americans now and will mean to future generations of Americans.

I feel that the controversy over restoration or extension of the west front of the Capitol poignantly emphasizes the need for a professional commission to plan

the comprehensive development of Capitol Hill. I hope that legislation such as Senate Joint Resolution 74, which passed the Senate last year, will be reintroduced this seassion and enacted into law. Only then will there be an orderly resolution of controversies such as this.

I appreciate the opportunity to express once again the institute's position on this most important matter.

Sincerely yours,

GEORGE F. KASSABAUM,
President.

Mr. STRATTON. I appreciate the opportunity to appear here, and I appreciate the members of the committee letting me know that the hearing was to be held.

I appear here this morning in opposition to what I understand is the request that this subcommittee has received from the Commission for the Extension of the Capitol for $2 million to finance complete planning for the projected extention of the west front as proposed by the Architect of the Capitol and the firm of Thompson & Lichtner, engineers.

This request and the action of the subcommittee in scheduling this hearing come to me as something of a surprise in view of the assurances that were given to me and to the House some time ago—I believe by yourself, Mr. Chairman—that nothing would be done on the west front extension until after the Vietnam war.

Mr. ANDREWS of Alabama. That was my hope.

Mr. STRATTON. I was trying to find it in the exact record, but in any event, I know that hope was expressed, and I thought, in fact, that it was something more than a hope, particularly from the chairman of the full Appropriations Committee. I recall he assured me in an exchange that we were not going to do anything on this until after the Vietnam war.

Mr. ANDREWS of Alabama. Frankly, at this point I would like to say to you that I have been frightened by what I have been told by knowledgeable people about the condition of this west front. I have expressed the hope that no major construction works would take place until the Vietnam war ended, but I want to say to you that, in my opinion, the way the past administration and the way the present administration is handling the Vietnam war, it may like the poor, be with us always.

I have no illusions about the end of the Vietnam war. It should have ended years ago.

If you would go to our defense committee hearings and read the record, you will see where I predicted some years ago, not only in our committee but in a speech on the floor of the House, that this war would be with us 20 years from now.

It already is the longest war in the history of this country; never has there been a war that lasted as long as this war has lasted.

If George Washington and his successors in office had fought the Revolutionary War as this one is being fought, we might not have a Capitol here in the city of Washington. We might still be under British rule.

Please proceed.

Mr. STRATTON. If the gentleman will yield, I think he knows that I share some of his concern with regard to the Vietnam war. I think it was not only the problem of the Vietnam war, but the problem of

inflation and withholding anything that was unnecessary until after the budgetary problems and particularly the inflationary problems that have grown out of the Vietnam war were under better control.

Of course, the chairman of the subcommittee is well aware of the fact that even the President of the United States announced just the other day a 75-percent cutback in construction projects under his control as an additional effort to fight inflation.

In any event, Mr. Chairman, let me address myself—I will be brief, and I hope I will be relevant—to the particular problem.

My opposition to this west front extension is, of course, no secret to the members of the committee. Let me, however, summarize my position very briefly.

First of all, I am opposed to it because it would cover up the last remaining portions of the original Capitol Building, and also would seriously alter the basic architecture of the original west front, something that the extension of the east front never did.

I believe myself, although the members of the committee certainly may not share this view, that there is a value in maintaining this structure as a kind of national shrine, pretty much as it was in its original construction beginning in 1800, and that we ought to alter it as little as possible, except what may be absolutely necessary to prevent it from collapsing around the heads of the Members of Congress as we have heard that it is about to do.

Mr. ANDREWS of Alabama. And visitors.

Mr. STRATTON. And the visitors, of course, our constituents.

Second, I do not personally think, although, again, you may not agree with me, that we ought to add any more additional spaces in the Capitol Building. It is certainly desirable that we have various things in the Capitol, and it would certainly be easier, even in spite of the new electric train, if we did not have to walk over from our office buildings to the Capitol but could conduct more of our business right here.

Nevertheless, it seems to me that we ought not further to enlarge this building, for example, to include additional committee rooms when we have the Rayburn Building, and we ought not to enlarge it to include a visitor's center when the distinguished gentleman from Illinois, Mr. Gray, succeeded in getting his visitor's center approved the other day, and that is under way now at the Union Station.

The third objection that I have is with regard to the cost. I think it is just too rich for our blood. When it was first proposed in 1966, the cost, as Mr. Scheuer said, was $34 million.

Mr. Stewart testified before this subcommittee the other day that at today's prices it would be up to $45 million.

Using the same phrase that he used, on the basis of the Architect' "track record," his estimates of the costs of the east front and his estimates of the Rayburn Building, I think a realistic figure when this thing is through would be that it would run between $60 million and $70 million.

I think that is just too much for us to spend in view of our other priority needs.

The argument has been made—it was made by Mr. Campioli in a speech to the American Registered Architects, and it was made by one of the American Registered Architects in the Science and Mechanics magazine in April 1969, with a beautiful and dramatic picture

on the cover—that the west front is in the process of collapsing; that new cracks have developed, and that the dome itself will come tumbling down around about us unless we begin now, without further delay, this extension project.

Let me make clear—I think I have made it clear before, but I am not sure that I have, and the gentleman from Illinois and I discussed it the other day—I am not opposed to repairing the west front. I am not opposed to keeping it from falling down around our heads. As a matter of fact, I appeared here, I thought it was a year ago, but I believe it was really 2 years ago, and urged this subcommittee to appropriate some money to repair the west front and to fix it up.

I was not successful in getting that appropriation through, but I notice the following year Mr. Stewart did find the money to take off some of the bird droppings and to paint up, at least, the west front of the Capitol so it looked a little bit more respectable than it has for the past 7 or 8 years.

The nub of my position, Mr. Chairman, and to me the most incredible part of this whole west front extension story, is that nobody has ever seriously tried to figure out what is the least that we have to do to keep this building from collapsing, and how much would it cost us to do it.

The only thing that we have now is an expansion project that calls for an enlargement of 4½ acres, the inclusion of two restaurants, two movie theaters, additional office spaces, and and even an escalator.

I do not think that anybody can honestly believe that it is impossible to keep the west front from falling down unless you include an escalator in it. Obviously, you do not have to have everything which is included in this Thompson & Lichtner project to keep the west wall from falling down.

My proposal is that before we approve this $2 million—let's not make any mistake about it, we all know what is afoot, that this is the first step down the road toward a project that will cost $60 million or $70 million, and whether you are an architectural buff and like the west front as it is, or whether you like it better that way, and you may have differences of opinion—with the appropriation of this $2 million you are going to go down the road toward a project that will ultimately cost $60 or $70 million and will permanently cover up the last remaining section of a very historic building.

Before we do that, we ought to spend a few dollars and find out what alternatives are open to us. Let us not base it on just what Mr. Scheuer thinks or what I think or what you think or what Thompson & Lichtner think, and they, after all, have an interest in their own project. Let us spend a little money and try to find out exactly what it would cost us to get this repair job done and what is the very minimum we need to do and what it would cost.

That has just never been done on this west front, incredibly enough.

We have only one option in front of us now.

Over in the Pentagon, as you well know, Mr. Chairman, from your participation on another distinguished subcommittee, they have a thing called cost-effectiveness. We do not always think it is a foolproof system, of course, but it has a lot of sense. Before they go into building a weapons system, they take a look at what the weapons system is

supposed to do and the job that it is supposed to do, and then they look over a couple of alternatives. They study each alternative to see just how effective it would be in dealing with the particular problem and how much it would cost.

Then, theoretically at least, they try to pick, out of the several options that are thus presented to them, the one that will be the most effective and the least costly.

We just do not have that kind of procedure over here on this side of the river. We have just one plan, and it is most unfortunate and most wasteful.

We have before us only a plan that calls for this expansion, and we have the guy who drew up the plan telling us that any other approach is going to cost us from $10 million to $50 million more.

Well, let's not just take his word for it. He's an interested party. Let's see a professional independent study made. I am no architect myself and I do not think you have to believe that all wisdom reposes in the American Institute of Architecture either. But the AIA have said themselves that they believe that the west front can be restored without being expanded, and they believe it can be done more cheaply.

Certainly you do not really need an escalator in the project. You don't need two restaurants to keep the west front from falling down. The AIA have estimated, I think, that this kind of survey could be done for us for about $100,000. My suggestion, basically, to this committee, then, Mr. Chairman, is that instead of appropriating $2 million, which is just the first step down a $60 to $70 million road, you appropriate $100,000 and let us get a look at another option presented to this committee and this Congress.

Before we make a final decision, I would simply like to conclude my remarks, if I still have time, and if I do not, I have copies of it, by presenting this final document. Senator Bartlett, the late Bob Bartlett, before his untimely death, was also interested in this whole west front project and last fall Mr. Campioli, the Assistant Architect of the Capitol, made a speech before the American Registered Architects, who have held very different views on this subject than the American Institute of Architects, in which Mr. Campioli in effect said the west front is collapsing. He showed slides. He said the only way we can save it is with the old, familiar expansion project.

He made a number of statements in his remarks, and Senator Bartlett got a copy of the speech and wrote to the president of the American Institute of Architects for his comments, "Is it true what Mr. Campioli says?" Senator Bartlett asked. Before they were able to prepare the answer Bob Bartlett was dead and so the AIA sent their answer to me. In fact I have Senator Bartlett's full file on the west front of the Capitol.

I have here copies of the AIA reply for all of the members of the subcommittee. The letter is from Mr. Kassenbaum, the president of the AIA. Just to summarize, they point out that the engineering report prepared by Thompson & Lichtner is devoted solely to the feasibility of extension. Nowhere does their report say that restoration is impossible. The Thompson & Lichtner report professionally justifies extension but it does not professionally analyze the expected risk cost and disruption factors that might be encountered in restoration. Mr. Kassenbaum addresses himself also to the statement by Mr. Campioli that we would have to vacate the entire west front for a period of 5 to 10 years if we were going to restore it. They maintain that only

those spaces immediately adjacent to the active restoration would have to be vacated.

Is there any limit on the risk or the cost of restoration? Mr. Campioli had charged there would be no limit on the risk or the cost if you went into restoration. As was mentioned here earlier, it would be a cost-plus thing, unlimited. Of course, there would be a limit to cost and risk of restoration, the AIA letter replies. "We firmly believe expansion would prove much less costly than restoration" the letter says, "A feasibility study would provide Congress with cost information."

The letter concludes with a review of the history of the west front and the specific question of whether the AIA was or was not in favor of extending the west front at the time the east front extension was being debated. They deny that they were.

Mr. ANDREWS of Alabama. Is that letter a part of your statement?

Mr. STRATTON. Yes, sir. I would appreciate having it made a part of my statement.

Mr. ANDREWS of Alabama. Without objection, we will insert the letter with your statement.

Mr. STRATTON. Thank you.

That, I think, concludes my statement, Mr. Chairman.

Mr. ANDREWS of Alabama. Thank you. You gentlemen have presented your views and arguments forcefully and cogently. We appreciate having your views.

(Discussion off the record.)

Mr. ANDREWS of Alabama. The Committee will reconvene at 2 o'clock.

AFTERNOON SESSION

THE AMERICAN INSTITUTE OF ARCHITECTS

WITNESSES

FRANCIS LETHBRIDGE, ARCHITECT, FELLOW AND VICE PRESIDENT OF THE AMERICAN INSTITUTE OF ARCHITECTS, AND CHAIRMAN OF THE JOINT COMMITTEE ON LANDMARKS OF THE NATIONAL CAPITAL

PHILIP A. HUTCHINSON, JR., DIRECTOR, GOVERNMENT AFFAIRS, AMERICAN INSTITUTE OF ARCHITECTS

Mr. ANDREWS of Alabama. The committee will come to order. We have with us Mr. Francis Lethbridge and Mr. Philip Hutchinson, Jr., representing the American Institute of Architects. We are glad to have you gentlemen with us. Mr. Lethbridge, you may proceed.

Mr. YATES. I would have thought that if anything appealed to Chairman Andrews the first paragraph of page 2 would, Mr. Lethbridge.

Mr. LETHBRIDGE. Mr. Chairman, my statement of which you have copies is a brief one and if you will bear with me, I will read it.

Mr. ANDREWS of Alabama. We will be glad to hear you.

Mr. LETHBRIDGE. My name is Francis Lethbridge, I am an architect, fellow and vice president of the American Institute of Architects, and chairman of the Joint Committee on Landmarks of the National Capital.

The American Institute of Architects opposes plans for the extension of the west front of the Capitol, believing that the preservation of this most important landmark of American history and architecture is of more lasting value to the Nation than the additional space that will be gained by the proposed remodeling.

We do not question the need for corrective measures to insure the safety and structural integrity of the building. We believe that this aim can be accomplished without recourse to an extension of the west front:

Which will erase the last externally visible work of the great pioneers of Federal architecture, William Thornton, Benjamin Latrobe, and Charles Bulfinch;

Which will alter the noble terraces planned by Frederick Law Olmsted, the dean of American landscape architecture; and

Which will obscure a significant chapter of this country's cultural history, burying forever the last remaining walls of the Capitol that date back to the founding of the republic.

We urge that Congress appropriate sufficient funds now to carry out architectural and engineering studies specifically directed to solve the problems of preserving the west front. If the will to do this is made clear, we have no doubts that the means to do so can be quickly developed.

American novelist and historian John Dos Passos once wrote:

> In times of change and danger when there is a quicksand of fear under men's reasoning, a sense of continuity with generations gone before can stretch like a lifeline across the scary present.

We are living in a time of great change but it is no contradiction of purposes for us to support the conservation of our national heritage, even as we seek more vigorous, imaginative, and effective efforts to rebuild our cities, rectify historic injustices, and build a better future for those generations who depend upon our judgment for the quality of the environment that they will inherit.

Mr. ANDREWS of Alabama. Thank you, sir. Do you have a statement?

Mr. HUTCHINSON. No, sir; I do not.

HIGH PRIORITY OF PROJECT AT THIS TIME

Mr. ANDREWS of Alabama. I can assure you that it is not the intent of this committee to consider this proposal at this time on the basis of getting additional space in the Capitol Building; that is not the moving consideration of this committee. We are disturbed from what we have heard, not only from the Architect's Office, but from outsiders, men who are well known in your profession about the safety of certain sections of the Capitol.

This matter of fixing up the west front has been under consideration for a number of years, as you know. I do not want to assume the responsibility of having a catastrophe occur. Thousands of people, certainly hundreds of people could get hurt in the Nation's Capitol if a portion of the building collapsed. I think something has got to be done, and done in the immediate future, to avoid the possibility of such a calamity. We have discussed pro and con, and we have heard discussions by witnesses knowledgeable on the subject, the question of whether or not the west front should be restored or whether it should be extended and rebuilt.

We have been told that a restoration job possibly could cost more than an extension job, for the reason that a restoration job would have to be done on a cost-plus basis. We had testimony on that again just this morning.

Frankly, we are not experts in the field of architecture. We are simply trying to relieve a situation that we consider—that is, I do, speaking personally as a member of this committee—to be critical. I think time is of the essence. I was awakened about 1 o'clock with that terrific thunderstorm and lightning early this morning, and I could not help but think about what might happen if the vibrations were so great that the underpinning of certain sections of this Capitol might be shaken.

I think the section of the Capitol we are talking about was built in 1820, or thereabouts, with the poorest of material by modern standards. What should we do? We have a rendering here. [Pointing.] I personally like that. That shows the extension. Some of your outstanding colleagues in the architectural profession have put their stamp of approval on it—2 years or more ago. A replica of the proposed extension was put on exhibit down in Statuary Hall of the Capitol in 1966. The Architect of the Capitol tells us that the compliments outrun the complaints many, many times. People look at it and say, "I like it." Mostly, he says, they think the model is of the present building, not of the building as it would be extended.

Suppose you sat where we do, what would you do? Sooner or later we are going to get down to the facts that confront us as to what should be done. I do not think there is any argument about the fact that something needs be done. The question is what and how should it be done? We have argued it, we have blueprinted it, we have modeled it, we have put the model on exhibition, that is, the Architect has. The Speaker told me that he had prohibited jets from flying over the Capitol because the vibration might cause these old walls to crumble.

AIA TASK FORCE STUDY GROUP

Mr. LETHBRIDGE. We are not questioning, Mr. Chairman, the need for repair and restoration, nor are we questioning the fact that this process would be costly and would take a good deal of time. We are arguing that restoration is important.

There is a significant difference historically and architecturally between restoring a building of great significance and extending a completely new facade beyond the existing walls. I can only say I was a member of the task force of the American Institute of Architects two and a half years ago that was brought together to study the plans for extension. We were courteously given a tour of the building and were permitted to examine the plans and the engineering reports by the Architect of the Capitol. This group of five architects that were brought together, all experienced men in their profession——

Mr. ANDREWS of Alabama. Who is that?

Mr. LETHBRIDGE. Mr. Homsey, Mr. Stenhouse, Mr. Rossetti, Mr. Fletcher, and myself.

Mr. ANDREWS of Alabama. That was your task force?

Mr. LETHBRIDGE. Yes, sir.

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ASSOCIATE ARCHITECTS, ADVISORY ARCHITECTS, AND CONSULTING ENGINEERS ON EXTENSION PROJECT

Mr. ANDREWS of Alabama. There was another group, I would say, of distinguished architects, both associate and advisory. I am sure you are familiar with some of them. They have very impressive biographies. I see the name of Mr. Paul Thiry III, from Seattle, Wash. Are you familiar with him?

Mr. LETHBRIDGE. Yes.

Mr. ANDREWS of Alabama. There is John Harbeson, Gilmore Clarke, Roscoe DeWitt, Alfred Easton Poor, Albert Homer Swanke, and Jesse M. Shelton. Then there is Miles N. Clair, the consulting engineer. His biography is also impressive. We are told also that Dr. Clair is recognized internationally in his field of specialty.

EXTENSION VS. RESTORATION

Mr. LETHBRIDGE. Mr. Chairman, I think there is a significant point here that must be made clear. These gentlemen, I believe, came to the conclusion that extension was the preferred method of carrying out the insurance of the safety of the building.

Mr. ANDREWS of Alabama. I think you are right.

Mr. LETHBRIDGE. This is a significant difference of opinion. Our point of view is that restoration is possible and preferable to the other methods of assuring the structural soundness of the west front. I do not believe that Mr. Stewart or any of these gentlemen at any time has stated that restoration is impossible.

Mr. ANDREWS of Alabama. No; you are right. They have not, to my knowledge.

Mr. LETHBRIDGE. They have stated that extension is preferable. On this point we part company.

Mr. ANDREWS of Alabama. Dr. Clair, the consulting engineer, said restoration could range from $10 million to $50 million. Mr. Campioli says that restoration would be more costly, in his opinion, because, as I stated a minute ago, if you followed the restoration route, you would have to go cost-plus.

Mr. LETHBRIDGE. Personally, I do not believe that, Mr. Chairman, but again I think there is probably a wide range of opinion on that.

This really, though, is not the significant point, I believe, in your minds or our minds. The important point is whether restoration, whether preservation of this historic facade, is important enough for Congress to make an honest effort to determine whether it is feasible—and I am sure in my own mind it is—and to proceed thereupon with that in mind.

Mr. ANDREWS of Alabama. We were told that restoration does not provide a permanent solution to the problem, and that at best it would last only about one generation before we would be faced with the problem again.

Mr. LETHBRIDGE. Mr. Chairman, extension does not provide a permanent solution to the problem.

Mr. ANDREWS of Alabama. But restoration vis-a-vis extension: An extension project, we were told, would be far more permanent than restoration. In other words, if you restored what you have now, we were told the cost could run anywhere between $10 and $50 million.

An extension, even grinding in the cost escalation factor and projecting one to the end of construction, runs the original estimate of $34 million up to around $45 million. But if you followed that plan, you would have something that would last far longer than restoration.

If you restored it, we were told you would have to go back there within a generation or so, and the appearance of a piecemeal approach would be more objectionable.

If replaced, we were told the cracks and bulges would appear again after a few years.

If the walls are rebuilt completely, we were told the danger and risk would be too great.

We were told that the whole west central portion of the building between the House and Senate wings including some interior rooms and spaces would, under restoration procedure, have to be vacated by the Congress over a long period of time.

The cost of restoration was estimated several years ago to be between $10 and $50 million. The costs have escalated since that time.

Furthermore, we were told that a cost figure for restoration is impossible to obtain.

We were told that a leading advocate of restoration has stated publicly that restoration could exceed the cost of the proposed extension. What are we to do? We are not architects. We are not engineers.

What we want to do is to try to correct the situation that is growing progressively worse and has reached the danger point today. I will tell you, I do not know what I would do, if after having sat here for 2 or 3 years and passed up an opportunity to provide the money for something to be done if we had a calamity there and a hundred or 200 people—and that is not child's play because of the big walls there are to fall—if that thing were to give way and cave in on the people. I can assure you that this committee is going to deliberate this question of what should be done. I hope we will operate on the theory that something must be done immediately. I can assure you that additional space is not entering into the picture in any way, shape, form, or fashion insofar as I am concerned at this time.

What we hope to do is to make the west front of this Capitol safe for the thousands upon thousands of people who go through there daily. One Sunday last year, if I remember correctly—it may have been the year before—I read a story in the paper where 36,000 people walked through the Capitol. I am sure many of them would not have gone through there if they could see these pictures and they knew the danger of that antiquated brick and sandstone and mortar.

Mr. LETHBRIDGE. The immediate danger is perhaps a matter of some controversy. Nevertheless, the American Institute of Architects urge that something be done and be done quickly to correct structural defects in the west front. We are, however, urging as strongly as we possibly can that the process of restoration and preservation be seriously studied. To date it has not received adequate study. If restoration and preservation of the facade is the will of Congress, I have no doubt in my mind that this can be done, and it can be done in such a way that the building will not only be safe, but will stand up for the future generations to cherish and enjoy as we have. The walls that now stand on the west front of the Capitol are rich with history.

Mr. ANDREWS of Alabama. There is no question about it.

Mr. LETHBRIDGE. They have the character of time that only the original walls can give to the building.

Mr. ANDREWS of Alabama. You have made a fine statement here and we are glad you came. I don't want to belabor this subject, but I was here when the east front was extended and there was a violent controversy that raged. It was participated in by members of your great profession. If I remember correctly, the consensus of your members was that the work should not be done—as it was done, the extension.

Now, looking back, are you glad that they extended that east front as they did?

Mr. LETHBRIDGE. Not necessarily.

Mr. ANDREWS of Alabama. You don't feel as hard toward it today as you did then?

Mr. LETHBRIDGE. I feel, Mr. Chairman, that because the east front extension has been made that it is even more important that those portions of the original building that exist on the west front be preserved.

Mr. YATES. Following up what Mr. Andrews has just talked about, I share his concern about the possibilities of some catastrophe happening because of the condition of the west front. We were told this morning that not only had jet planes been required to avoid flying over the Capitol, the Architect said he had refused to permit helicopters to come below a certain altitude. He said there have been tremors, so-called near earthquakes in Virginia surrounding this area and he is fearful of what may happen.

We were shown that diagram that appears up there of the west wall and the arches that are supported by the west wall which in turn support the second, or principal floor. I asked the question, suppose for some reason several of those bricks or stones that are on the outside were to be dislodged and fall out? If that were to happen, there is a possibility that arch might crumble and the floor come down. I was told that if the first thing happens, if the wall does not move out, then the arch does fall and the floor falls along with it.

The question, of course, is how much danger is there of that wall going out. We have been shown photographs of cracks and photographs of other things. As Mr. Andrews says, we are all interested in doing the best thing we can. I personally would favor your proposal. I would favor that wall being restored. When I interrogated our Architect about that, he said it would lack the permanence of the extension. It would last only a generation before the same job would have to be done again.

When I pointed to the statement that you and your task force filed 2 years ago, which appears in the hearings for 1968 about what is being done to the buildings in Europe, I was told that the—Mr. Campioli, I refer to, who is a qualified architect—I was told there are two differences. One that you have a tradition in the European buildings of people who knew stone and who knew how to construct buildings with stone and, secondly, those buildings are of a more permanent nature than our Capitol is. Namely, they are made of stronger stone. We are dealing with sandstone and other materials that are not nearly as strong and, therefore, if you were to restore

the wall as a mere restoration, not only would the job be intensely more complicated than the extension, but it would not be nearly as satisfactory.

I like the argument in your statement. I like the idea of restoring the walls if they can be restored. I think probably the argument that we could find space elsewhere would be acceptable to me, but cost is a factor. The cost, as Mr. Andrews said, is estimated between $10 and $50 million.

Mr. ANDREWS of Alabama. And you wouldn't know until the job was complete. It would have to be done on a cost-plus basis.

Mr. LETHBRIDGE. Mr. Chairman, certainly some rough but fairly accurate estimate of the cost of the work could be prepared before the job was completed, but there would have to be allowance made, certainly, for carrying it out on a cost-plus basis.

I think these arguments of Mr. Campioli's are highly prejudiced in favor of extension and I cannot accept in my own mind either the statement that the job of restoration would be good for only one generation. This is utter nonsense.

Mr. YATES. Let me give you another chart we were shown here. This one here [indicating] was given to us and we were told that what would have to be done would be that you have to start in here. You have to shore up all of these rooms and you have to work on these arches before you even start on the west wall and the cost would be just enormous. I still don't know what you have in mind when you say to restore the west wall. What do you mean by restoring it? Just the thin shell that you have there or do you build it up inside? Do you buttress it? What do you propose by a restoration?

WHAT IS SUGGESTED BY "RESTORATION"

Mr. LETHBRIDGE. A certain amount of repair and restoration of these walls will have to be done whether the building is extended or not. The problem of insufficient foundation, as brought out in the engineering reports, is something that would have to be corrected whether an extension is built or whether the walls are restored in place.

Restoration and preservation in this instance would mean a thorough job to make this part of the Capitol Building sound structurally as well as restoring the outside.

Mr. YATES. What does "restoration" mean in terms of that diagram? You have an outer wall there. Do you propose to thicken that wall? Do you propose to make it stronger? What do you envision by the restorative process?

Mr. LETHBRIDGE. Let me say I cannot speak as a technical expert as to the provision of restoration, or the process of restoration, but I would say that it means that those stones and those portions of the exterior wall that are seriously deteriorated or are structurally impaired would have to be replaced. The wall itself would have to be strengthened if this is needed.

Mr. YATES. When you say "replaced," do you propose to replace them with duplicates of those stones or substitutes or what?

Mr. LETHBRIDGE. We proposed in the task force report that the stones be replaced with stones from the same quarry.

Mr. YATES. If they are of sandstone construction, you propose to put sandstone there?

Mr. LETHBRIDGE. That is right.

Mr. ANDREWS. Mr. Campioli, if I remember correctly, said they looked into that and the quality of the sandstone available today would not be acceptable. You would have to use limestone. They tested it.

Mr. LETHBRIDGE. I can't reply to that, although I would certainly question it.

Mr. YATES. If you propose to try to replace the wall with the same kind of materials, aren't you going to have the same kind of defects in them?

Do you propose to hang them on an inner wall that would be much stronger? I am trying to get a picture of the restoration. I want to vote for a restoration rather than for an extension, but I don't know what is implicit in the term "restoration."

If you are going to duplicate the wall as it is, isn't it going to be a weak wall, and should we duplicate it in view of all the advances that have been made in construction since that first wall was constructed?

Mr. LETHBRIDGE. The wall would not be duplicated necessarily in the same structural form as this wall. It would probably have to be reinforced heavily. This can be done.

Mr. YATES. Are you saying that the restoration would be one that would reinforce the wall and merely carry the appearance of the present Capitol on the outside? Is this what you are saying?

Mr. LETHBRIDGE. It would restore the existing appearance of the building as it now stands.

Mr. YATES. From the outside. On the inside you would have a much stronger construction. Is this what you are saying?

Mr. LETHBRIDGE. If the reinforcing can be carried out within the thickness of the walls, of course, this would be the preferred method.

Mr. YATES. How do you find this out? What do you propose to do? Would a study show this?

Mr. LETHBRIDGE. Yes, indeed. A study would have to be made specifically directed toward the solving of how this restoration could be carried out.

Mr. YATES. How long would such a study take?

Mr. LETHBRIDGE. I could only give you my opinion of that. I would say about 6 months would be required.

Mr. YATES. You have no idea of what it would cost?

Mr. LETHBRIDGE. I can't answer that specifically. Whatever figure I would give you would be simply my own opinion.

Mr. YATES. What would happen in the interim? Would the present temporary shoring up be adequate to preserve the safety of the building?

Mr. LETHBRIDGE. In my opinion it would be. The opinion of the task force two and a half years ago was that this study for restoration should have been made then but we were of the opinion—I speak now for all five architects who were in the last study—that the building was in no imminent danger of collapse but the work should proceed as quickly as possible. That still is my opinion.

Mr. YATES. I am still not sure of one thing. I have great respect for the Institute and for your task force. Let me say that. Is this the report of the institute or of the task force?

Mr. LETHBRIDGE. The report is of the task force that was supported by the institute.

Mr. YATES. By a specific vote of the institute?

Mr. HUTCHINSON. The board of directors adopted this report and it has the full backing of the American Institute of Architects.

Mr. LETHBRIDGE. This was done in March 1967.

Mr. BOW. I have just one or two questions, Mr. Chairman.

This is a most important landmark in American history. If we are to have a restoration, how much of that section of the building would have to come down?

Mr. LETHBRIDGE. Only those portions of the facade that are badly damaged would be replaced.

Mr. BOW. You are talking about one wall now. If you want to go back to the historic value of this building, you would have to go back to the original building, wouldn't you? Take off the wings, take off the dome, take off the present west front and go back to the old square building?

Mr. LETHBRIDGE. I don't think that follows necessarily.

Mr. BOW. These additions have been made from time to time to the original historic Capitol Building?

Mr. LETHBRIDGE. That is correct, but the building, as it stands today, is a history book of architectural development.

Mr. BOW. Would you have included in that the east front?

Mr. LETHBRIDGE. I would have included in that the east front.

Mr. BOW. The present east front?

Mr. LETHBRIDGE. That is reconstruction.

Mr. BOW. Isn't it still a part of the historic building?

Mr. LETHBRIDGE. It is now, but it certainly has a different quality of architecture than the original.

Mr. BOW. Where is the difference in the architecture over what it was before?

Mr. LETHBRIDGE. The materials, partly.

Mr. BOW. Materials, but not in architectural features, what you see?

Mr. LETHBRIDGE. That is, incidentally, not true of the proposed plans for the west front.

Mr. BOW. What changes would be made in the west front to change it from the existing form?

Mr. LETHBRIDGE. The design proposed, as you all know, would not only change the front, but would also alter the architectural design as it now exists.

Mr. YATES. Wasn't that done to the east front?

Mr. LETHBRIDGE. There was virtually no alteration to my knowledge in the architectural detail of the east front.

Mr. BOW. There (indicating) is a picture of the way the west front exists and the west front extended. You see very little difference there in the appearance of the west front architecture.

Mr. LETHBRIDGE. I think there is considerable difference, one over the other.

In any case, sir, my case is based principally on the overriding importance of preservation of the west front.

Mr. BOW. The same arguments could have been made when they wanted to put the new dome on the Capitol and when they wanted to put the wings on the Capitol. It has grown over the history of the country and there have been changes made from time to time.

What is the real overriding reason for that preservation? You still preserve the wall within the building. We would still have the wall the same as we have right outside this room. We have some of the east front wall still visible out here in the corridor.

Mr. LETHBRIDGE. I think one could argue that that is scarcely the same as preserving the exterior facade.

Mr. Bow. Thank you, Mr. Chairman.

Mr. ANDREWS of Alabama. Mr. Andrews.

1964 STUDY AS REGARDS "RESTORATION"

Mr. ANDREWS of North Dakota. Your statement is one, Mr. Lethbridge, that a person can hardly quarrel with. You point out the need for a study but to the best knowledge of this committee such a study was made. We have before us a letter from the Thompson & Lichtner Co., engineers, Brookline, Mass., dated November 1, 1964, wherein they point out they were asked to make recommendations as to (1) whether the existing wall, if found deficient, can be repaired in its present condition; (2) whether the existing wall can be repaired or refaced with marble in its present condition; (3) whether remedial action requires extension of the west central front and its reconstruction in marble; or (4) whether any other means of preservation are deemed feasible and advisable.

Then it goes on page after page after page, including facts and findings indicating that extension is the only feasible way of saving the west front.

Mr. LETHBRIDGE. I did read that report and to the best of my recollection—I believe this is correct—that report came to the conclusion that the extension of the west front was the preferred method. They did not at any point in the report say that preservation was impossible and they did not explore methods by which preservation could be carried out.

ASSISTANT ARCHITECT'S OPINION ON PROBLEMS OF "RESTORATION"

Mr. ANDREWS of North Dakota. They were asked originally to examine all four methods. We have been told this morning by the architects that are hired by the Speaker, over which, of course, this committee has no jurisdiction—Mr. Campioli was incidentally for 8 years in charge of all the architecture down in Colonial Williamsburg and certainly should be experienced in old buildings. Mr. Campioli testified that the west wall consists of the exterior face, that we have a rubble inner wall and we have a rubble core which is poorly laid and has a lot of voids, and if you try to reconstruct the outside it is an extremely difficult thing to do, while saving the inner brick arches and the interior floors they support.

You made a statement a minute ago that I think is extremely important when you said, "We want to preserve intact the west wall, with all of its historical significance."

Mr. LETHBRIDGE. That is right.

Mr. ANDREWS of North Dakota. Are you talking about the west wall exterior or the west wall interior? They are both important, and we have been told by Mr. Campioli as a result of this particular study that if we went the route of restoring the wall in place by trying to

put back sandstone stones and if we try to use pressure grouting and all of the other things necessary to fill up the interior column that is heavily voided, we may well, by putting this cement in under pressure, completely destroy the plaster on the interior wall with the priceless paintings that are now there, and that if we go in and shore up, with some type of scaffolding, the brick arches while we do the outside and take the pressure off those brick arches, then when we take the scaffolding down after doing the outside work, we may well see the arches themselves collapse.

So, they say we may well lose a good deal of historical significance inside the building while we are trying to patch up and hydraulically grout and make impervious this rubble core to save the outside of the wall as it was.

They also point out the rubble inner core has a different coefficient of expansion from the sandstone exterior face, and if you make this a solid wall sufficient to hold today and into the foreseeable future, you then, instead of just cracking the exterior face, will crack right through and begin to have cracks on the interior painted plaster walls.

It is for the purpose of following your suggestion that we preserve the historical significance of these walls that they went in this direction engineeringwise.

Mr. LETHBRIDGE. All of this, however, seems to assume that the restoration would be carried out incompetently, but the extension would be carried out competently. This is not necessarily true. It is quite reasonable to assume that restoration would be carried out quite as competently as extension might be carried out.

Mr. ANDREWS of North Dakota. The point, as they have brought out, is the fact that what is damaging these walls is the period of time and the fact that we now have gone to internal heating and air-conditioning, and there is a temperature differential which did not exist when the building was first built, and that if we can make this exterior wall into an interior wall, the progress of aging will be stopped because the temperature and humidity on both sides of the old wall will again become constant and become uniform as originally intended.

Mr. LETHBRIDGE. It is true, however, that that argument could be leveled against any important architectural monument. It would preserve the Washington Monument it we were to enclose it in plastic, but that is not really considered a satisfactory expedient. I think the preservation of a building in its original state is important in itself for architectural and historic reasons.

Mr. ANDREWS of North Dakota. But you think the filling of this void hydraulically with all the other steps necessary to make the west wall structurally sound can be done without damaging the interior despite the engineering study that we have which says it cannot be?

Mr. LETHBRIDGE. The engineering study that you have does not say that it cannot be done, and I will believe, until shown otherwise, that it can be done.

Mr. ANDREWS of North Dakota. That is all, Mr. Chairman.

Mr. ANDREWS of Alabama. Mr. Langen?

PREVIOUS ACTION OF AIA ON EXTENSION

Mr. LANGEN. What is the membership of your organization?

Mr. LETHBRIDGE. About 23,000 members, I believe.

Mr. LANGEN. Is that a major part of all architects in the country? What percentage?

Mr. HUTCHINSON. About 80 percent.

Mr. LANGEN. This resolution was adopted by that group in annual convention.

Mr. LETHBRIDGE. A resolution urging preservation of the west front was adopted by the institute in convention. The report of the task force committee, as Mr. Hutchinson testified, I believe, was adopted by the board of directors acting for them.

Mr. LANGEN. At that time, did they have before them the task force report, and did they have before them any of the other engineering studies and surveys that had been made, so they had a basis of comparison?

Mr. LETHBRIDGE. Yes, sir.

Mr. LANGEN. This was in March of 1967?

Mr. LETHBRIDGE. That is correct, sir. We had meetings with the Architect and the members of the advisory group on the extension.

Mr. ANDREWS of Alabama. We will have to suspend. If you will stand by, we will be back within a few minutes.

(Brief recess.)

Mr. ANDREWS of Alabama. The committee will come to order.

Mr. Langen, you have the witness.

WHAT IS SUGGESTED BY "RESTORATION"

Mr. LANGEN. The subject has been pretty well covered, but let me pursue one further thought.

I am still puzzled about just what it is we are trying to preserve. I look at the Capitol Building, and I see parts of it built at different times in history. That is the way it is now. If we remodel or add something to it, one day it will be part of today's history.

I suppose preservation can be made anywhere along the line.

Coming back to the hearing room, I made note of the visible part of the west front. It is pretty badly deteriorated. Will it be preserved in that deteriorated state? Is that what you have in mind?

Mr. LETHBRIDGE. To a degree, it was the opinion of the group of which I was a member that an effort should not be made to restore the west front for cosmetic reasons. Those stones that were structurally unsound should be replaced, but the erosion that is present in some of the stones with age should be retained.

Mr. LANGEN. Little pieces have dropped out from the columns due to weathering.

Mr. LETHBRIDGE. Where pieces have dropped out, where the appearance of the building is mutilated, this should be restored. This is, I think, the proper method of restoration to follow.

But if stones simply show evidences of age, they would not necessarily be restored.

Mr. LANGEN. What about the columns that are located there? Would they be replaced?

Mr. LETHBRIDGE. We were observing, just before we came into the committee hearing, that so far as the Capitol pilasters are concerned, there is still good detail in the carved work on the west front in the old section. Apparently they took better care of that than they did

the walls themselves. I, for one, would believe that when the coats of paint are taken off, a greater part of the detailed architectural work would be preserved.

Mr. LANGEN. How much longer would those last, starting at this point?

Mr. LETHBRIDGE. If you view time historically, you would have to start efforts immediately to preserve a new west front if it were built out as an extension. When you think of time in terms of hundreds of years, preservation is something that must go on constantly over a great many generations.

I certainly would take exception to the statement that restoration or preservation would be a job that would be very temporary in nature. That does not follow. It does not jibe with the experience of preservationists anywhere else in the world.

Mr. LANGEN. That is all, Mr. Chairman.

AGREEMENT THAT CORRECTIVE ACTIONS NEED TO BE TAKEN

Mr. ANDREWS of Alabama. I would like to ask one final question. There is no doubt in the mind of you and your associates that something must be done?

Mr. LETHBRIDGE. That is correct. However, we advocate, as I have stated, restoration of the west front rather than a $45 million extension.

Mr. ANDREWS of Alabama. That the condition of the west front today poses a hazard?

Mr. LETHBRIDGE. The degree of hazard I would hesitate to say, but it does present some degree of hazard, and it certainly presents a disgraceful appearance that ought to be corrected.

Mr. ANDREWS of Alabama. Something should be done?

Mr. LETHBRIDGE. Yes, sir.

Mr. ANDREWS of Alabama. Thank you very much.

Mr. LETHBRIDGE. I appreciate your courtesy. Thank you very much.

Mr. ANDREWS of Alabama. It is nice to have had you.

LIST OF WITNESSES

	Page
Campioli, M. E	1
Durkin, C. A	1
Henlock, C. A	1
Hutchinson, P. A., Jr	129
Kuhn, F. X	1
Lethbridge, F	129
Raines, W. F	1
Roof, P. L	1
Scheuer, Hon. J. H	114
Stewart, J. G	1
Stratton, Hon. S. S	121
Winkelmann, F. W	1

INDEX

	Page
Age of west central portion of Capitol	87
American Institute of Architects:	
Dispute	104
Position on proposed extension	5
Previous action of	140
Statement of	102
Study	104, 138
Task force study group	131
Testimony of	129
Views of	93
Architect of the Capitol, statement of the	1
Architects, controversy among	4
Architecture, differing views on	4
Assistant Architect of the Capitol, qualifications of	2
Construction, original	88
Corrective actions, need for	141
Deterioration of the structure	87
Dome:	
St. Peters	90
Stability	112
Support	91
View	90
Weight	91
East front extension cost overrun	108
Extension:	
Administrative costs	101
Alternative to	96
Architects, advisory	99
Architectural-engineering fee	98
Areas which would need to be vacated due to	89
Associate architects-engineers	98
Bipartisan approval of	97
Compared with restoration	132, 135
Consultants	132
Contracting procedure	100
Costs	104
Estimates, basis for	100
High priority of the project	130
Landscape architect	99
Length of	113
Necessity for	92
Primary reason for	99
Space gained	89
Stabilizing old wall before	97
Time schedule	98
West wall, provision for leaving parts of it exposed on interior	105
Inspections of Capitol building, periodic	111
Justifications:	
Appendix	
Comments of May 4, 1967, by the Architect of the Capitol on the task force report of the American Institute of Architects	72
Letter of Augus 8, 1969, from Speaker McCormack, in his capacity as Chairman of the Commission for Extension of the U.S. Capitol, to Hon. George W. Andrews, chairman, Legislative Subcommittee, House Committee on Appropriations	55

Justifications—Continued
Appendix—Continued
Letter of August 14, 1969, from Speaker McCormack to Hon. Joseph M. Montoya, chairman, Legislative Subcommittee, Senate Committee on Appropriations — Page 58
Letter of Augus 20, 1969, from the Thompson & Lichtner Co., Inc., summarizing their study August 1968 to April 1969, relating to vertical and horizontal movements of the west central portion of the building — 60
Letter of November 1, 1964, from the Thompson & Lichtner Co., Inc., summarizing their study of the conditions of the west central portion of the building and making recommendations for remedial action — 63
Comments on "restoration" of the west central front — 47–50
Construction changes and additions, Capitol building—History of the growth of legislative and other facilities on Capitol Hill, 1793–1969 — 51–53
Expendtures and obligations—west central front—1964–69 — 54
General justification — 7–9
Legislation governing project — 36–39
Legislative history and chronology of events leading to development of plan 2 for extending the west front — 40–47
Need for the west front work:
Make the west front safe, sound, and durable for the foreseeable future — 10–19
Provide additional working space for Congress and accommodations for the public — 19–21
Provide delivery and service facilities — 21–22
Strengthen the west front architecturally — 22–23
Plan 2—Its description, scope, cost, and approval:
Description and scope — 24–28
Cost estimates — 29–31
Approval — 31–35
Marble supply — 101
Materials used in the original structure — 87
Movements of building — 103
Rayburn Building cost overrun — 108
Restoration:
American Institute of Architects:
Dispute — 104
Position of — 5
Statement — 102
Study — 104, 138
Views on — 93
Areas which would need to be vacated due to — 88
Brick arches, hazards to — 109
Costs — 92, 104
Estimates, validity of — 107
Study — 106
Hazards involved — 102, 103
Impermanence of — 95
Problems involved — 105, 138
Procedures — 106
Temporary nature of — 110
Work involved in — 93
Statement of Hon. James H. Scheuer — 114
Architect of the Capitol, practices of — 115
Capitol Hill architecture, responsibility for — 119
Historic considerations — 116
Planning need for — 115
Statement of Hon. Samuel S. Stratton — 121
Statement of the American Institute of Architects — 129
Stone specialist — 101
Weakening of building — 96
West wall, danger of collapse — 91
White House restoration — 106
Williamsburg, Va., restoration techniques used at — 109

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