INDEPENDENT OFFICES
APPROPRIATION BILL FOR 1945

HEARINGS
BEFORE THE
SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES
SEVENTY-EIGHTH CONGRESS
SECOND SESSION
ON THE
INDEPENDENT OFFICES
APPROPRIATION BILL FOR 1945

Printed for the use of the Committee on Appropriations
Mr. Wigglesworth. I wonder if you could insert in the record a breakdown of those 19,000 documents, by agency and perhaps by some general classification within each agency?

Major Kennedy. It would have to be somewhat of an estimate, because our staff is pretty much occupied with trying to take care of the documents as they come in. I would say roughly 75 percent of the documents we are getting now come from the war agencies.

Mr. Wigglesworth. If you could give us something on that, even if an estimate, by agency, and by general classification within the agency?

Major Kennedy. We can try, though it may take us a little while. (The information is as follows:)

**Break-Down of Documents Published in the Federal Register**

For the period from January 1 to November 30, 1943, inclusive, there were 19,199 documents published in the Federal Register. A break-down of this figure is as follows:

<table>
<thead>
<tr>
<th>Agency</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of Price Administration</td>
<td>7,024</td>
</tr>
<tr>
<td>War Production Board</td>
<td>2,681</td>
</tr>
<tr>
<td>Alien Property Custodian</td>
<td>2,207</td>
</tr>
<tr>
<td>Securities and Exchange Commission</td>
<td>864</td>
</tr>
<tr>
<td>Interstate Commerce Commission</td>
<td>489</td>
</tr>
<tr>
<td>Office of Defense Transportation</td>
<td>412</td>
</tr>
<tr>
<td>War Department</td>
<td>271</td>
</tr>
<tr>
<td>Selective Service System</td>
<td>206</td>
</tr>
<tr>
<td>Federal Communications Commission</td>
<td>165</td>
</tr>
<tr>
<td>Agriculture Department, all agencies</td>
<td>2,700</td>
</tr>
<tr>
<td>Miscellaneous other agencies</td>
<td>2,180</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19,199</strong></td>
</tr>
</tbody>
</table>

1 This is an estimated figure. Actual number cannot be obtained with facility because of frequent changes of name in connection with reorganization of bureaus.

Mr. Wigglesworth. I think that is all.

Mr. Woodrum. Thank you, gentlemen.

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**Wednesday, December 1, 1943.**

**SMITHSONIAN INSTITUTION**

**STATEMENTS OF DR. CHARLES G. ABBOTT, SECRETARY, SMITHSONIAN INSTITUTION; DR. ALEXANDER WETMORE, DIRECTOR, NATIONAL MUSEUM; H. W. DORSEY, ADMINISTRATIVE ASSISTANT TO THE SECRETARY, SMITHSONIAN INSTITUTION; J. E. GRAF, ASSOCIATE DIRECTOR, NATIONAL MUSEUM; M. W. STIRLING, CHIEF, BUREAU OF AMERICAN ETHNOLOGY; W. P. TRUE, CHIEF, EDITORIAL DIVISION, SMITHSONIAN INSTITUTION; DR. G. S. FORD, AMERICAN HISTORICAL ASSOCIATION; COL. HARRY A. McBRIDE, ADMINISTRATOR AND BUDGET OFFICER, NATIONAL GALLERY OF ART; GEORGE T. HECKERT, ASSISTANT TO THE ADMINISTRATOR, NATIONAL GALLERY OF ART**

**SALARIES AND EXPENSES**

Mr. Woodrum. We will now take up the estimates for the Smithsonian Institution and the National Gallery of Art.
JUSTIFICATION OF ESTIMATE

Please insert the justifications for the Smithsonian Institution at this point.

(The justification follows:)

SMITHSONIAN INSTITUTION

The appropriation here considered is made for the support of the Smithsonian Institution, created by act of Congress, approved August 10, 1846, by the terms of which the bequest of James Smithson's fortune to found an establishment for the "increase and diffusion of knowledge among men," was effected. The increase of knowledge is effected by fundamental research in the pure and natural sciences, and the diffusion of knowledge by publications, exhibits, correspondence, and radio.

The direction of this organization is entrusted to a Board of Regents of 14 members, including the Vice President of the United States, the Chief Justice of the United States, 3 Members each from the Senate and House of Representatives, and 6 citizen members. The executive officer and director of the Institution's activities is the Secretary.

Primarily a quasi-private establishment, there grew up under Smithsonian initiative certain branches which became of national significance. These bureaus are now largely supported by public funds, but are intrusted by Government to Smithsonian administration.

Hence, support for the Institution now comes from two sources: (1) Interest from endowment on Smithsonian funds and donations made by individuals for specific work and (2) Federal appropriations. Thus the Institution supports basic scientific research with funds obtained from private sources and publishes new knowledge gained by its own and outside workers in papers and memoirs for world-wide distribution.

Those functions of the Smithsonian which are supported in the main by Federal and District appropriations are divided among seven bureaus, as follows: (1) The United States National Museum, the depository of the national collections, which have grown until, at the present time, there are about 18,000,000 items included in the Museum's catalogs; (2) the National Collection of Fine Arts, which includes the Freer Gallery of Art, and covers those matters in the field of art outside the plan of the National Gallery of Art; (3) the Bureau of American Ethnology, concerned with collecting and publishing data relating to the American Indians and the natives of Hawaii; (4) the International Exchange Service, initiated in 1851, which transmits to foreign countries reports and proceedings of the Congress, messages of the President, and reports and publications of departments and agencies, including the Smithsonian Institution, and publications of American learned institutions and individuals, in exchange for similar papers of the other nations of the world; (5) the National Zoological Park, which maintains collections of living animals, and exhibits to the public about 2,500 mammals, reptiles, and birds; (6) the Astrophysical Observatory, which investigates solar radiation and other astronomical phenomena at three observatories in the Western Hemisphere, and through its Division of Radiation and Organisms investigates the effect of radiation on plants and animals; (7) the National Gallery of Art, which has been created as an autonomous bureau of the Smithsonian Institution.

The National Zoological Park is carried in the appropriation bill for the District of Columbia. The National Gallery of Art has a separate appropriation from the other Smithsonian bureaus. The other bureaus of the Smithsonian are included in the appropriation here under consideration, in which aside from those mentioned, there is provision for the central administrative office, and a unit for the operation, maintenance, and repair of the buildings of the main Smithsonian group, their equipment and furnishings.

Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated expenditures for 1944</td>
<td>$1,210,578</td>
</tr>
<tr>
<td>Estimated expenditures for 1945</td>
<td>$1,224,090</td>
</tr>
<tr>
<td>Increase for 1945</td>
<td>$13,512</td>
</tr>
</tbody>
</table>
The forced entry of this country into global war has created a demand for specialized knowledge far beyond that of former wars. Although the Smithsonian Institution is not officially listed as a war agency, much of its staff and important parts of its laboratory facilities are occupied in solving questions coming from the war agencies. These requests cover not only the physical sciences, but anthropology, biology, and geology, in their many branches. The Institution's staff, highly trained in these specialties, of wide experience from expeditions in most parts of the world, being located near the headquarters of the Army and Navy and other war activities, is a valuable and extensively used source of technical information. The immense collections of the Institution, especially those in geology and the biological sciences, also have proved invaluable for consultation. The Institution is concerned also in the important field of inter-American cooperation.

Some of our staff have joined technical units of the armed forces, putting to their use the specialized knowledge and background gained by work at the Institution. Others have been and are furnishing specific data and information to the armed forces and to other war agencies. A portion of our personnel is giving service to the war effort on a part-time basis in varying amount, and will be so engaged for the duration. From the National Museum there is being furnished information on various subjects of military importance in anthropology, zoology, botany, geology, engineering, and related subjects. These data are highly varied, covering such diverse fields as the behavior and customs of peoples in combat areas who may soon be temporary wards of this country, memoranda on useful and injurious animals and plants of war areas, on critical materials, on sources of foods, on substitute products, on the identity of woods and their useful qualities in boat and other construction, and in general the identification of diverse natural history materials. The National Zoological Park is furnishing to the medical services information on such poisonous animals as insects and snakes. The Astrophysical Observatory is utilizing its specialized equipment and personnel in testing materials and in furnishing information for the Army and the Navy. A wide variety of information is furnished to the armed services on request, most of this being channeled through the Ethnographic Board, a nongovernmental agency located in the Smithsonian Building, sponsored jointly by the National Research Council, the American Council of Learned Societies, the Social Science Research Council, and the Smithsonian Institution. This board, which was created to furnish to our war agencies, both military and civilian, information needed as to any strategic area and its inhabitants, has been giving excellent service in making available without delay, a wide variety of special information which would otherwise require much time for its collection. The Bureau of American Ethnology is working in close cooperation with the Ethnographic Board in furnishing information on aboriginal peoples in combat areas, and there is constant call on the National Museum for information in the fields of natural history, engineering, industries, and history. Over 1,300 requests for information to date have been made on Smithsonian personnel for matters concerned with the war effort. Some of these were in the nature of spot information, others have entailed much research.

Early in 1942 the Institution began a series of publications, at the cost of its private funds, for the purpose of giving condensed authentic information on the less well known areas and peoples involved in the war. The authors of these pamphlets are for the most part members of the staffs of the United States National Museum, the Freer Gallery of Art, and the Bureau of American Ethnology. Of 17 papers printed thus far, only 2 have been by outside authors. The series, entitled "War Background Studies," has received very wide and favorable attention from Army and Navy units, universities, schools, and organizations for pre-military training. To the present time, besides the Smithsonian edition of 127,500 copies, the Army and Navy have had printed, at their expense, a total of some 50,000 additional copies covering various numbers for their official use.

Thus it is clear that the Smithsonian Institution, besides continuing the essential care and maintenance of the immense national collections, and preserving the continuity of essential scientific investigations and publications, has contributed greatly to the war effort by giving freely of its knowledge, its funds, and the evidence of its collections, as well as by the assignment of many members of its staff directly to war problems. These matters all take precedence over the regular duties of the Institution, which for the duration are handled as these requirements permit. At the close of the war there will be, thus, a considerable accumulation of these usual, necessary tasks to which we must then return.
JUSTIFICATION OF ESTIMATES

Salaries and expenses, Smithsonian Institution

Regular appropriation, 1944 act ................................ $1,129,040
Add estimated excess of obligations over appropriation due to Public Law 49 .................. $81,538

Add additional cost for 1945 of 1944 reclassifications .......... 1,420
Add additional cost for 1945 of 1944 promotions.................... 10,542

Deduct nonrecurring and other items not required in 1945: Total cost of overtime for 1944 (1944 overtime) .................. 168,928

Base for 1945 .............................................. 1,053,612

Distribution of base and increase for 1945

<table>
<thead>
<tr>
<th>Project</th>
<th>Base</th>
<th>Total cost of overtime</th>
<th>Recurring increase</th>
<th>Nonrecurring increase</th>
<th>Total estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) General administration</td>
<td>$43,200</td>
<td>$7,744</td>
<td></td>
<td></td>
<td>$50,944</td>
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<tr>
<td>(2) International exchange</td>
<td>28,243</td>
<td>2,029</td>
<td></td>
<td></td>
<td>30,272</td>
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<tr>
<td>(3) Astrophysical Observatory</td>
<td>45,390</td>
<td>5,174</td>
<td></td>
<td></td>
<td>50,564</td>
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<tr>
<td>(4) Bureau of American Ethnology</td>
<td>55,455</td>
<td>5,093</td>
<td></td>
<td></td>
<td>60,548</td>
</tr>
<tr>
<td>(5) National collection of fine arts</td>
<td>14,320</td>
<td>2,967</td>
<td></td>
<td></td>
<td>17,287</td>
</tr>
<tr>
<td>(6) National Museum</td>
<td>394,465</td>
<td>76,553</td>
<td></td>
<td></td>
<td>471,018</td>
</tr>
<tr>
<td>(7) Maintenance and operation</td>
<td>334,465</td>
<td>76,553</td>
<td></td>
<td></td>
<td>410,018</td>
</tr>
<tr>
<td>(8) Printing and binding</td>
<td>88,455</td>
<td>5,347</td>
<td></td>
<td></td>
<td>93,802</td>
</tr>
<tr>
<td>Total</td>
<td>1,053,612</td>
<td>170,478</td>
<td></td>
<td></td>
<td>1,224,090</td>
</tr>
</tbody>
</table>

GENERAL STATEMENT

The work under this appropriation deals with the activities of the several bureaus administered by the Smithsonian Institution, and includes also the general administrative office, the maintenance and operation of buildings, and printing and binding. The work under these separate projects is explained as follows:

1. General administration.

This project provides for the general administration, under the direction of the Secretary of the Smithsonian Institution, of the six governmental bureaus in the charge of the Institution. It covers the salaries and necessary incidental expenses for this office, whose responsibility it is to direct and further the work of these bureaus, to insure their economical administration, and to coordinate their operations.

Justification of base for 1945.

Personal services, $41,765.—Notwithstanding that the personnel for this office has always been insufficient, it has been necessary at the beginning of the current fiscal year to eliminate one position in order to meet the overall ceiling fixed by the Bureau of the Budget for the number of government employees under the Institution. This work could not be carried on without the aid of regular employees paid from Smithsonian funds, and it has been even necessary in the past year for the Institution to employ additional temporary help for the purpose.

Other obligations, $1,460.—Expenses for other obligations are modest for the purposes indicated. The more important items are explained as follows:

04 Communication Service, $550.—This is all used for necessary telephone and telegraph service. It includes few long-distance calls, which are made only when absolutely necessary.

09 Equipment, $425.—This is largely for books, but includes awnings, office equipment, and similar items.
Comparative expenditures, allotment, and estimate

<table>
<thead>
<tr>
<th></th>
<th>1943</th>
<th>1944</th>
<th>1945</th>
<th>Increase for 1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Personal services</td>
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<td>$49,493</td>
<td>$49,584</td>
<td>$91</td>
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<tr>
<td>02-09 Other obligations</td>
<td>1,408</td>
<td>1,460</td>
<td>1,460</td>
<td></td>
</tr>
</tbody>
</table>

Justification of increase for 1945.

The increase of $91 for personal services for 1945 is to place promotions under Public Law 200 given during 1944 on an annual basis, and includes overtime on such promotions. Beyond that item, overtime for 1945 is added in that same amount as for 1944.

2. INTERNATIONAL EXCHANGE SERVICE

This exchange service, initiated by the Smithsonian Institution in 1851, has through the interchange of scientific and intellectual information been a potent means of promoting cultural relations between the United States and foreign countries.

Justification of base for 1945.

Personal services, $13,863.—The present personnel is needed to carry on the exchange work—in fact, it would not be possible to keep that work up-to-date were it not for the detail of employees paid from Smithsonian funds.

Other obligations, $11,490.—The more important items under this heading are explained as follows:

03 Transportation of things, $8,920.—This amount is based on the expenditures for freight in 1943. During that year 513,460 packages, weighing a total of 248,648 pounds, were received for transmission. The needs for 1945 appear to be at least as much.

09* Equipment, $2,100.—In 1943, 1,175 boxes were ordered. Estimating that there will be 275 boxes on hand at the beginning of 1945, 900 boxes will be required to be ordered for that year. Average cost is $2.26 each, making a total of $2,034. The remainder is for miscellaneous equipment.

Comparative expenditures, allotment, and estimate

<table>
<thead>
<tr>
<th></th>
<th>1943</th>
<th>1944</th>
<th>1945</th>
<th>Increase for 1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Personal services</td>
<td>$18,250</td>
<td>$16,566</td>
<td>$16,676</td>
<td>$110</td>
</tr>
<tr>
<td>02-09 Other obligations</td>
<td>9,513</td>
<td>11,409</td>
<td>11,400</td>
<td></td>
</tr>
</tbody>
</table>

Justification of increase for 1945.

The increase of $110 for personal services for 1945 is required to place promotions under Public Law 200 given during 1944 on an annual basis, and includes overtime on such promotions. Beyond that item, overtime for 1945 is added in the same amount as for 1944.

3. ASTROPHYSICAL OBSERVATORY

Justification of base for 1945.

Personal services $41,610.—It is important that the three field observing stations of the Observatory be continued, for only with an unbroken series of measurements over a considerable period can the important facts relating to the sun’s variation be measured and evaluated. The headquarters observatory which normally designs and makes specialized instruments for the use of field stations and reduces and publishes the results of such stations, is now giving considerable service to the war agencies. The study of light is a specialized subject and the Astrophysical Observatory possesses both highly trained specialists and unique equipment which is most useful in making measurements and determinations required by the armed services. Since the Observatory has lost two workers through the imposition of the personnel ceiling and has actually taken on added work of a defense nature, it is important that the personnel be kept on the present basis.
As to the Division of Radiation and Organisms, only so much of its normal program as is necessary to continue basic scientific work under way, is now being carried on. Except for this, the technically trained workers, together with the specialized equipment they have developed, are being used on confidential work for the armed forces. The Division has lost two workers through the imposition of the personnel ceiling. This small unit should not be further reduced.

Other obligations, $3,050.—Expenses for other obligations are below normal, largely concerned with routine running expenses for the unit. The estimates for 1945 are placed on the same basis as the low wartime expenditures of 1943. For supplies and materials $1,350 is estimated for 1945, almost $1,000 of this being for photographic plates for the field observing stations, the remainder being ordinary laboratory supplies. The amount of $1,000 for equipment is for laboratory equipment, largely replacements, and for books and periodicals required for the library.

Comparative expenditures, allotment, and estimate

<table>
<thead>
<tr>
<th></th>
<th>1943</th>
<th>1944</th>
<th>1945</th>
<th>Increase for 1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Personal services</td>
<td>$44,580</td>
<td>$48,775</td>
<td>$49,424</td>
<td>$649</td>
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<tr>
<td>02-09 Other obligations</td>
<td>3,600</td>
<td>3,600</td>
<td>3,600</td>
<td></td>
</tr>
</tbody>
</table>

Justification of increase for 1945.

The increase of $649 includes $600 to place promotions under Public Law 200 granted during 1944, on an annual basis. There is also included $40 to cover the reclassification of one position and $9 for overtime on that increase. Beyond those items there is included overtime for 1945 in the same amount as for 1944.

4. BUREAU OF AMERICAN ETHNOLOGY

The Bureau, through its own researches, its library, and its manuscript and photographic collections, possesses the most complete collection of information on the American Indian now gathered in one place. This background of information is not only of great utility in dealing with aboriginal populations during the present emergency, but will be highly valuable later in post-war adjustments, especially when the desires, aspirations, and needs of peoples must be considered.

Justification of base for 1945.

Personal services, $53,203.—While the work of the Bureau of American Ethnology is normally concerned with research on the American Indians, wartime demands on the specialized knowledge possessed by the professional workers in the Bureau have made it necessary for this small staff to give a great proportion of its time to collecting information for and answering inquiries from the war agencies. Certain other research work which could not easily be laid aside has been continued, though on a considerably restricted basis. The Bureau lost two of its workers when the personnel ceiling was imposed, one professional and one library aid. In view of the very considerable additional demands for the services which can only be provided by the Bureau experts, it is important that the present small staff be maintained.

Other obligations, $1,155.—Expenditures for other obligations are most modest, being estimated for only $1,155 in the fiscal year 1945. Most of these are a minimum for the routine operations of the Bureau. The amount specified under equipment, $650, is practically all for the purchase of books and periodicals for the Bureau library. This is the foremost library on the American Indian and it should be kept reasonably up to date.

Comparative expenditures, allotment, and estimate

<table>
<thead>
<tr>
<th></th>
<th>1943</th>
<th>1944</th>
<th>1945</th>
<th>Increase for 1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Personal services</td>
<td>$57,365</td>
<td>$61,271</td>
<td>$63,408</td>
<td>$2,137</td>
</tr>
<tr>
<td>02-09 Other obligations</td>
<td>1,144</td>
<td>1,155</td>
<td>1,155</td>
<td></td>
</tr>
</tbody>
</table>
Justification of increase for 1945.

The increase of $2,137 includes $937 to place promotions under Public Law 200 granted during 1944 on an annual basis, and $1,200 for position reclassification. Beyond those items overtime for 1945 is added in the same amount as for 1944.

5. THE NATIONAL COLLECTION OF FINE ARTS

The act of August 10, 1846, establishing the Smithsonian Institution, provided for a gallery of art among its activities, and made the institution responsible for "all objects of art * * * belonging to the Government."

Under the National Collection of Fine Arts the institution is charged with the care, exhibition, and maintenance of all objects classed as fine arts in its custody, exclusive of those which are included under the specifications of the act accepting Mr. Mellon's gift, and establishing the present National Gallery of Art.

Justification of base for 1945.

Personal services, $14,360.—The limited personnel under the National Collection of Fine Arts remains the same as during the preceding year. It is still necessary to carry the salary of the Acting Director on a part-time basis. This condition, while unfortunate, is the same as it has been for several years. The remainder of the staff is concerned with subprofessional and clerical assistants required in assisting in the preservation of the National Collection of Fine Arts including the Freer Gallery of Art and routine work connected therewith. It would not be possible for the present staff to accomplish its work were it not for the fact that Smithsonian funds provide several additional persons, principally in the professional class.

Other obligations, $960.—Expenditures under other obligations have been most reasonable, the only considerable expenditure occurring under equipment, and this is practically all chargeable to books for the library.

Comparative expenditures, allotment, and estimate

<table>
<thead>
<tr>
<th></th>
<th>1943</th>
<th>1944</th>
<th>1945</th>
<th>Increase for 1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Personal services</td>
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<td>$17,327</td>
<td>$17,327</td>
<td>$17,327</td>
</tr>
<tr>
<td>02-09 Other obligations</td>
<td>968</td>
<td>960</td>
<td>960</td>
<td>960</td>
</tr>
</tbody>
</table>

Justification of increase for 1945.

The only increase above the base is for overtime pay. The amount indicated is the same as for 1944.

6. UNITED STATES NATIONAL MUSEUM (PRESERVATION OF COLLECTIONS)

This appropriation includes funds for the United States National Museum, for the increase, preservation, study, and exhibition of "the collections of natural history including animals, plants, geological and mineralogical specimens, of commerce, engineering and industry, graphic "arts, and of history, belonging to the Federal Government" (act of August 10, 1846), as well as those on deposit from the Smithsonian Institution and from private individuals.

Justification of base for 1945.

Personal services, $373,865.—The National Museum lost seven positions owing to the ceiling placed on Smithsonian personnel during April 1943. These included five professional employees, one subprofessional, and one custodial. This reduction is bound to add to the large amount of the arrangement normally carried by the museum, for at no time have sufficient employees been available to keep the work of the museum reasonably up-to-date. It must be remembered that even under war conditions material is constantly added to the collections through gift. During the fiscal year 1943 various materials were received from members of the armed services. With our men scattered over most of the world it seems certain that gifts of this nature will increase considerably. In addition to gifts received which must be accessioned, cataloged, distributed to the right section, and incorporated into the study collections in their proper place, there is the large continuing undertaking dealing with the specimens now on hand. A large proportion of these are subject to deterioration and injury from insects and fungi. These must
be regularly inspected and treatments applied. There is also a continuing need for arrangement of the collections so that the information they provide will be more readily accessible to furnish answers to questions which are received from the armed services, scientific institutions and individuals. Requests from individuals have decreased to some extent, but on the other hand requests from the armed services have very greatly increased, and most of these are of such a nature that immediate attention must be given to them.

Some of these inquiries require extended research. These additional calls for service, together with the reduced personnel to handle them, mean that the care which may be given the collections is unsatisfactory on the basis of a long continuing period. It is obviously necessary to accept this condition for the duration, but if this period is too long continued there is a very great probability that loss to our collections will result. Certainly there will result a considerable loss in those values which make our collections useful to science. The material in our charge has become a great deal more precious and irreplaceable on account of the destruction elsewhere resulting from the war, and its safety must be insured. A statement in the annual report for the year 1942 deserves repetition, as follows: "Under such circumstances our treasures in plant and animal life, living and fossil, in anthropology, in history, in art, and in engineering and the industries, demand the most detailed and specific are so that, under the stress of the moment, they may not suffer neglect and damage. They comprise a trust that must be preserved for the culture and life of future generations in our Nation."

Aside from the professional staff our subprofessional and clerical employees have always been at a low ebb. Those in the subprofessional force will naturally have to take over some of the duties of the considerably reduced professional staff, especially in relation to the preservation of specimens. Clerical work including cataloging of specimens and the notes relating thereto, will always be very considerably in arrears. It is hoped that our present small staff may be held for the duration so that this arrearage will not increase unduly. Those in the crafts, protective, and custodial service attached to the National Museum are largely laboratory helpers, those who furnish an extra pair of hands for the scientists. This force has always been much too small.

Personnel on duty under this project, other than those closely related to the collections, include library workers and the staffs of the personnel, property, and shipping offices. These units have always been at a minimum and should by all means be retained at their present strength.

Other obligations, $17,890.—Under other expenditures the item for travel will be held at about actual expenditures for the fiscal year 1943. This is a wartime minimum and much below our usual expenses in this regard. The same thing may be said for "03, Transportation of things"; "07, Other contractual services"; "08, Supplies and materials," and "09, Equipment." Supplies and materials are concerned largely with specimen preservatives, fumigants, and chemicals, required in the preservation and study of our extensive collections. Under other contractual services are charged contract work principally in the mounting of plants and tanning of skins. Under expenditures for equipment $4,000 will be used for books. These are required to keep current the scientific library of the National Museum, an absolutely necessary adjunct to the collections.

<table>
<thead>
<tr>
<th>Comparative expenditures, allotment, and estimate</th>
<th>1943</th>
<th>1944</th>
<th>1945</th>
<th>Increase. for 1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Personal services</td>
<td>$415,875</td>
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<td>$444,729</td>
<td>$3,458</td>
</tr>
<tr>
<td>02-09 Other obligations</td>
<td>22,161</td>
<td>17,890</td>
<td>17,890</td>
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</tbody>
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Justification of increase for 1945.

The increase of $3,458 for personal services for 1945 is required to place promotions, granted during 1944 under Public Law 200, on an annual basis, and includes overtime on that portion of such promotions on which overtime is required by law. Beyond that item overtime for 1945 is added in the same amount as for 1944.
I. MAINTENANCE AND OPERATION OF BUILDINGS

Justification of base for 1945.

Personal services, $330,594.—This project has suffered heavily through the imposition of the personnel ceiling, losing 4 mechanics, 9 laborers, 11 guards, and 24 part-time charwomen. A portion of this loss was recouped owing to the increase in working hours from 44 to 48, but actually all of the services are less completely manned than they were a year ago, at which time a survey by the Bureau of the Budget indicated very definitely the need for more guards, laborers, and char, as well as an additional mechanical supervisor’s position. Owing to the fact that our newest building is 32 years old, and that the buildings vary in age from that figure to 96 years, it is obvious that the repair and maintenance work is not becoming less. Added work necessary on the roofs and in making other repairs only means that the services of tinners, cabinetmakers, and painters are more difficult to obtain for the preparation of storage cases to house the study collections. This in itself adds very considerably to the danger attending the safe preservation of these specimens. While the Institution must obviously make the best of the present situation, attention should be called to the fact that the personnel available under this project is considerably beyond a safety limit. The next change in personnel should be an increase.

Other obligations, $48,085.—04 Communications, $2,125: This represents average costs for telephone service and telegrams. Long-distance calls and telegrams are held to a minimum.

05 Heat, light, power, $17,000: This figure represents cost of electricity and gas. While slightly above the figure for 1943 it is not out of line with a long-time average. Beginning in 1944 the char force will work until 1 a.m. instead of 7:30 p.m., and this alone will raise our requirements for electricity.

07 Other contractual expenses, $3,200: Work under this item covers specialized painting or repair and construction of the wooden portion of storage cases. The estimate is moderate.

08 Supplies, $18,000: Major expenditures under this item include mechanic’s supplies, glass, lamps, lumber, and paint. Expenditures for 1943 were of necessity unusually low. Increase over the same item for 1943 is explained by the fact that under reorganization, all guard uniforms and cleaning and toilet supplies and equipment for the Institution will be purchased under this project beginning in the fiscal year 1944.

09 Equipment, $7,760: Expenditures under this head include principally glass and paper specimen containers and furniture replacements.

Comparative expenditures, allotment, and estimate

<table>
<thead>
<tr>
<th></th>
<th>1943</th>
<th>1944</th>
<th>1945</th>
<th>Increase for 1945</th>
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</thead>
<tbody>
<tr>
<td>01 Personal services</td>
<td>$375,461</td>
<td>$403,284</td>
<td>$410,361</td>
<td>$7,077</td>
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<td>02-06 Other obligations</td>
<td>43,238</td>
<td>45,085</td>
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</table>

Justification of increase for 1945.

The increase of $7,077 includes $6,858 to place promotions, granted during 1944 under Public Law 200, on an annual basis, and includes overtime on that portion of such promotions on which overtime is required by law. There is also included $180 resulting from job reclassification and $39 to cover overtime on this increase. Beyond those items, overtime is added for 1945 in the same amount as for 1944.

8. PRINTING AND BINDING

Funds made available by this appropriation include also provision for printing and binding for the Government branches under the Smithsonian Institution, and the American Historical Association, being divided as follows:

Smithsonian Institution .................................................. $77,880
American Historical Association ...................................... 10,620

Total appropriated, 1944 ................................................. 88,500

That portion available to the Smithsonian Institution provides for printing the Annual Report of the Board of Regents (required by law), and necessary printing for the United States National Museum, Bureau of American Ethnology, National
Collection of Fine Arts, the National Zoological Park, the International Exchanges, and the Astrophysical Observatory. Items printed include annual reports; bulletins, comprising works of a monographic nature and scientific studies of museum specimens; proceedings, which are original papers setting forth newly acquired facts in biology, anthropology, and geology; labels; and blank forms. Beyond this, provision is made for binding books and periodicals for the various branches of the Smithsonian Library, which together constitute one of the largest and most valuable repositories of scientific literature in the country.

The publications of the American Historical Association consist of the proceedings of the association, documentary material, and a report upon the condition of historical studies in America. The last-named takes the form of an annual bibliography of books and articles on United States and Canadian history.

Justification of base for 1945

Present estimates indicate that the funds under this project will all be required to print the two classes of material—scientific information useful to the war effort, and cooperation with the American republics—now being published by the Institution.

Comparative expenditures, allotment, and estimate

<table>
<thead>
<tr>
<th>Year</th>
<th>Printing and binding:</th>
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<tbody>
<tr>
<td>1943</td>
<td>$88,500</td>
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<td>1944</td>
<td>$88,500</td>
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<td>1945</td>
<td>$88,500</td>
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No increase is requested for 1945.

GENERAL STATEMENT

Dr. Abbot, we will be glad to have you make a statement on the estimates for the Smithsonian Institution.

Dr. Abbot. Mr. Chairman, the Smithsonian Institution, though it is rated far down as a war agency, has nevertheless endeavored with private funds and public funds to aid as much as possible in the prosecution of the war.

In the matter of the private funds, we have cooperated with several other institutions in the establishment of the Ethnogeographic Board, and we have given it office space and paid the salary of the Director from the private funds of the Institution. That is an agency which receives thousands of requests for information and has an extensive card catalog of persons who know authoritatively almost any subject that you might mention.

Then there is the scientific and technical staff of the Institution with its many experts with specialized knowledge of the wide field of Nature including peoples, animals, plants, and minerals, many of which are of strategic importance to the war agencies. These men are accustomed to travel in distant lands, many of them have a knowledge of other languages, and have a great deal of knowledge of the things which people on a desert island, in a jungle, or dangerous places of various kinds, would like to know. These types of knowledge which are possessed by our staff are quite unusual and are found very, very useful to the war services. The Institution has received from war agencies over 1,300 requests for information or other data.

We have several laboratories in connection with the Astrophysical Observatory and its branches, and there we are carrying out special researches for the War and the Navy Departments. We have sent a great many of our good men from all the bureaus into the war services also, so that it is with a good deal of difficulty that we maintain the service which is necessary to the preservation of the enormous
collections, now reaching the order of 18,000,000, which we are responsible to preserve for posterity.

Dr. Wetmore can explain more fully in regard to these considerations and explain further how our work has been very highly appreciated by the war services.

In regard to the appropriations, both Mr. Graf and Dr. Wetmore have spent a great deal of time with the Bureau of the Budget in discussing these items minutely. So as these estimates come to you, sir, they have been studied over to the best of our knowledge and to the best of the knowledge of the Bureau of the Budget, which has examined in great detail the organization of certain of our services. They recommended some changes, which we have made, and they have taken very careful cognizance of all the estimates which have come before you. I do not know that there is anything else in the way of a general statement that I should make, sir, but I shall be glad when we come to the Astrophysical Observatory, to make a few more remarks.

Dr. Wetmore. Mr. Chairman, the secretary has mentioned the work of the Ethnogeographic Board, and the many inquiries we have from agencies concerned with the war for information and data. One interesting task just completed was a request of the Navy Department for the preparation of a book on survival under emergency conditions in the jungle or on the ocean. At this moment, without doubt, there are men floating around on life rafts in the seas, or lost in the jungles, who have some hope of coming out alive and perhaps rejoining their own forces. Some of these are country boys with experience in hunting, fishing, and trapping, who have some knowledge of how to take care of themselves. Others are city men who have not had the advantage of outdoor life heretofore. They are up against it.

In our staff we have men who are accustomed to traveling on expeditions in remote places. They have had experience in caring for themselves in the wild. We have gathered together information on securing food, water, and shelter under primitive conditions, which is included in a booklet that has just been issued, published by the Navy Department for use of those who go out on dangerous missions.

(Discussion off the record.)

The Secretary has indicated something of the status of our estimates of appropriations needed for the next fiscal year. The only increases in the estimates for 1945 before you are those concerned with the salary rolls, which are required under the various laws covering these matters that have been passed by the Congress.

INCREASES FOR PROMOTIONS AND OVERTIME

(See p. 189)

Mr. Woodrum. You mean the reclassifications and overtime?

Dr. Wetmore. Yes, sir. There is no other increase in the estimates presented.

Mr. Woodrum. This amount of $105,000. Is that for overtime, mostly?

Mr. Graf. In 1944 we estimate that we will expend $1,210,578. We estimate that beyond the appropriation available we will ask for a deficiency of $81,538 on account of overtime.
Mr. Woodrum. Is that entirely accounted for by overtime?
Mr. Graf. Yes. In fact, it is less than half the amount we will need to pay for overtime.
Mr. Woodrum. Have you absorbed some of it?
Mr. Graf. Yes, sir. Considerably more than half the cost of overtime will be absorbed under our regular appropriation.
Mr. Woodrum. There are no new positions provided for in here?
Mr. Graf. No, sir; nor are there new estimates for other obligations.

REDUCTION IN PERSONNEL

Mr. Woodrum. What reduction in personnel have you made as the result of Public Law No. 49, if any?
Mr. Graf. Under the provisions of Public Law 821 we dropped from 478 permanent positions to 408 permanent positions; in other words, we lost 70 positions, a reduction of over 14 percent in personnel.
Mr. Woodrum. Why is that not reflected in the appropriation?
Mr. Graf. It is as to positions. As shown by the table we sent you, Mr. Chairman, you will see that in 5 years, we have lost about 50 positions, but are paying about $200,000 more salary on the remaining positions due to the overtime and other laws affecting personnel.
Mr. Woodrum. Though you have reduced personnel, you cannot get your salary roll down on account of the overtime and the increase in wages?
Mr. Graf. We certainly cannot, sir. In addition we have reduced our expenditures for other obligations by some $30,000.

VISITORS AT EXHIBITIONS

Mr. Woodrum. Now, how are the visitors holding up? Are you still having a lot of visitors, or fewer?
Dr. Wetmore. The number of visitors in our public exhibition halls has held up surprisingly. For the fiscal year ending June last we had 1,335,269 persons. That does not include nearly 3,000 who came to the buildings for evening meetings of various scientific societies.

With the coming of the war we made certain changes in our hours for opening the museum to the public. With the money available to us, it is necessary for us to be closed one-half day each week. The funds that we have available will not allow the employment of sufficient guards to operate on a 7-day straight week basis. Formerly it was customary to close the buildings Sunday forenoon and to open Sunday afternoon, but with the service men and women from camps nearby coming into Washington on week-end furloughs, that was obviously unjust. These people, who had Sunday morning here would in many cases have to start back to camp in the afternoon. We therefore made a shift, so that all of our buildings are open all day Sunday and are closed Monday morning.

Men and women in uniform among our visitors number from 35 to 40 percent of the total, so we know that we are performing a useful service. We feel that we are rendering valuable service to civilians also because at the present time, due to the rationing of gasoline and rubber, and to the necessity for eliminating as much civilian traffic on the railroads as possible, the people that reside here in Washington
are restricted in their recreation. They can come down to attend our exhibitions on week ends, Sundays, and at other times when they are open and so have recreation as well as education. We feel that the museum has served a highly valuable purpose in this way. In fact, the attendance, nearly 1,400,000, is only approximately 1,000,000 less than it is in normal times when we had the great crowds of tourists coming in, especially during the spring and summer seasons. So I think this justifies fully the maintenance of this public service during wartime.

Mr. Woodrum. You do not think it would be possible to cut that expense any by shortening the hours, or anything of that kind? You think that you have done all you can along that line?

Dr. Wetmore. I believe it would be a mistake, sir, to attempt to curtail them. If anything, I would prefer were funds available to be open 7 days a week. I believe that that would be a better course.

REPAIRS AND ALTERATIONS

Mr. Woodrum. Is there anything in here for repairs and alterations?

Dr. Wetmore. Nothing except the ordinary maintenance. There are no special items. We had one special item for repair of a roadway, but due to some adjustment we have been able to handle that out of current funds.

ADDITIONS TO COLLECTIONS

Surprisingly enough, additions to our collections have been maintained at about the usual level. Most of the materials that we receive, as I have told you in previous hearings, come as gifts. Ordinarily, we have many coming in from expeditions also, but that work for the duration is definitely curtailed or eliminated. The increase in the National Museum collections for the last year included over 230,000 individual specimens, which means that we have accepted probably one-half that have been offered. We make a careful choice from the things that come to us.

(Discussion off the record.)

WORK OF THE LABORATORIES

The Secretary has mentioned the work of some of our laboratories. At the present time there is a great deal of interest in substitute woods for such materials as teak and mahogany that are obtainable now only with great difficulty. Through the course of many years we have built up in one of our divisions a large collection of carefully identified woods from all over the world, for their scientific value for standards used in identifications. The associate curator in charge of that collection now spends most of his time examining wood samples that come from the Navy Department, the War Production Board, and the Office of Economic Warfare, to determine whether or not they may be suitable as substitutes for others now difficult to obtain in quantity.

Balsa wood is one of the woods used in aircraft production. Here are some substitutes suggested for balsa [handing]. You will notice how light they are. One of the three is not a satisfactory substitute, the other two are.
Here is a timber that has been suggested for use in place of mahogany. It is a good type.
These three samples [handing] have been offered as substitutes for teak.

STUDIES OF INSECTS AFFECTING THE HEALTH OF TROOPS

Health among our troops is of paramount importance. One of the greatest dangers that besets a man on land in tropical regions, a danger greater than that of battle, comes from malaria, a disease that is carried by mosquitoes. We have in our Division of Insects a very large collection of mosquitoes of all kinds from all over the world. I have here specimens, insignificant looking creatures, that were sent in for identification within the last few months from New Guinea, Guadalcanal, Algiers, and Brazil. These are all types that may carry malaria.

Men from the Medical Corps are constantly in our building carrying on studies on our specimens of mosquitoes.
These manuals have been prepared within the last year based on our collections. They have been published for the use of the medical services in the armed forces for the determination of malaria-carrying mosquitoes throughout the world. They are highly technical in nature and are intended only for trained personnel, but they are very, very important.
The work concerned in these matters has increased to a point where we have been obliged to provide larger quarters, that these researches may be carried on properly.

Mr. Woodrum. Is that duplicating any of the work being carried on by the Health Service, or in the Army or Navy laboratories and hospitals?

Dr. Wetmore. No, sir. In fact these services are sending their men to our collections to do their work. These two manuals that I show you were prepared by two lieutenants from the Army Medical Corps who were working in our collections from February to August last.

USE OF INCOME FROM GIFT FUNDS

Turning to a different type of endeavor, I have described to you on previous occasions some of the funds of the Smithsonian Institution that have come as gifts with the understanding that the income would be used for specific purposes. One of the important funds of this kind is the Roebling fund, the income of which may be devoted solely to the increase of our mineral collections.

As one of the interesting purchases in the last year from the income of the Roebling fund, there is this opal from Mexico [exhibiting] a very fine specimen with a great deal of fire. It is one of the finest I have seen.

Mr. Hendricks. How do you describe that, Doctor?

Dr. Wetmore. It is a Mexican opal, a fire opal.

SEARCH FOR STRATEGIC MINERALS IN MEXICO

Strategic minerals for war use now are a matter of paramount importance. Various parties are occupied in Mexico in search for these minerals which are found in rock strata. In order to look for them
intelligently, the rock exposures in which they may occur must be identified, must be known. In northwestern Mexico there is a considerable area which has been unexplored from the standpoint of the systematic geologist. Last spring we had one of our men there, Dr. Cooper, who in his search found various fossils of the type displayed here—trilobites—indicating that the deposits were of Middle Cambrian age. That means that they are approximately half a billion years old.

With this base established, it is possible to go on from there and follow other strata in higher levels that may carry minerals of importance. This is one example of some of the basic investigation which is necessary for the carrying on of such researches, important at the present time in the war effort.

**BIRTH OF A VOLCANO IN MEXICO**

As another interesting matter, in Mexico, last February, an Indian farmer in a little village called Paricutun, in the State of Michoacán, west of Mexico City, was out one evening looking over his ground when he saw smoke coming from a little crack in the earth. Presently more smoke appeared and the farmer went to look at it, to find that the ground there was hot. He was terrified and ran to the nearby settlement to tell the president of the village about it. When he returned at 9 o'clock in the evening fire and flames were coming out of the hole. Within 3 months, a volcano had built up there, over a thousand feet high, with eruptions of lava and ashes coming out in quantity and overflowing the adjacent land—thus man had witnessed the birth of a volcano.

**FORMATION OF MINERALS DURING COURSE OF ERUPTION OF VOLCANO**

One of our men working in Mexico, Dr. Foshag, in connection with search for strategic minerals has from time to time visited this site to study the progress of the eruption and also to collect from it some of the new minerals that have been formed during the course of the eruption. Here is a sample of an ammonium fluoride taken from one of the fumeroles in this new volcano.

I want to point out to you the contrast in age between these two mineral specimens. This trilobite, from the Middle Cambrian preserved in mineral half a billion years old, and this specimen here formed since last February are very interesting examples to indicate the prolonged period over which natural processes of this kind may extend.

Mr. Hendricks. Did you say half a million years, Doctor?
Dr. Wetmore. Half a billion.

**EVOLUTION OF MONEY IN CHINA**

Here is an example of one of the early types of money from China, the so-called knife money [exhibiting].

Mr. Woodrum. We may be back to that in a short time, that same kind of stuff.

Dr. Wetmore. That strange-looking piece of bronze is a very interesting item.
Mr. Woodrum. It looks like it has been broken and then welded.

Dr. Wetmore. Yes, sir; it has been. It was made between the third and fourth centuries, B.C., when this type of money was current in northwestern China. The interesting thing is that their money started out in this elongated form with an opening at the end. As time went on, with the need for more funds, perhaps, or perhaps when their currency depreciated, the length of the blades shortened, and baser metals were substituted. Finally this came to the point where only the ring at the end persisted, and we have this type of coin, the so-called cash that is current in many parts of China today, a round piece with a hole in the center.

Mr. Woodrum. This is current [indicating]?

Dr. Wetmore. That type is, yes. This other dates back, as I say to the third or fourth century, B.C.

Mr. Hendricks. How old is this last which you have shown us, did you say?

Dr. Wetmore. That is modern. That is in use in China today.

Mr. Hendricks. How much is that worth?

Dr. Wetmore. So little in our money that 10 pounds of it would perhaps do for a day's ordinary purposes.

Mr. Hendricks. What is that metal, Doctor?

Dr. Wetmore. I am not quite certain. May I see it for a minute? [After examining it.] It seems to be brass.

**SPECIMENS FROM THE PACIFIC AREA**

From areas in the Pacific, much in the public eye at the present time, here is a comb made of crude wood, and an armlet or bracelet, woven from a kind of grass which comes from Buka in the Solomons [exhibiting articles].

Another specimen, a little more current at the present moment, is this sword or fighting weapon from the Gilberts.

There are no metals available there to the primitive people, so they took sharks' teeth and mounted them along pieces of wood to make swords and cutting implements. That makes a very wicked fighting weapon.

Another development of the same kind was to take a shark's tooth of large size, pierce the base, thread it on a piece of fiber, and use it as a ring. Then, if a native could get close enough to an enemy, he could disembow him.

Rather early in the operations in the southwest Pacific it is now well known that there was occupation by American troops of the island of New Calendonia, which undoubtedly served to prevent the Japanese from entering. The forces there were under Maj. Gen. A. M. Patch. A Frenchman living in Noumea the capital of New Calendonia, was so grateful to the American forces for protection that he presented to General Patch a large collection of sea shells and other marine life obtained around the island. General Patch, on his return to this country last summer, brought this material over, and it has been presented to the National Museum. It is a very interesting collection scientifically, the first of the kind we have ever had from that area.
The shell in your hand is a cone shell. The cone has a tongue set with sharp, hollow teeth, each tooth with a poison gland as a base. If those shells are handled when alive, they can give a nasty bite and one highly dangerous from infection.

These smaller shells, which are cowries, are used for money among the primitive peoples in the southwest Pacific. When Mr. Stirling, who is here today with us, was in the interior of New Guinea, he took such shells with him to serve in trading with the natives.

As another gift from General Patch I have here one of the most interesting ethnological specimens that has come to the National Museum since my association with it. This is a ceremonial mace or ax given to General Patch by the head chief on Maré in the Loyalty Islands, also in token of gratitude for what the Americans have done there. I have seen pictures and drawings of such articles, but this is the first one we have ever had for examination. The blade is of serpentine, very beautifully worked, and set in ingenious fashion on a wooden handle. It is one of the most remarkable things of the kind we have ever seen, and it is especially interesting since the chief gave it, his most precious possession, to the general. That is his emblem of office. How old it is, we have no means of knowing. It is one of those things passed down from father to son in the hereditary chieftainship.

What I have shown you here are merely indications of some of the objects we have received during the year. There have been many, many others like them.

Mr. Woodrum. It is very, very interesting, Doctor. We always look forward to this hearing, and this part particularly.

Is there anything else, Doctor?

Dr. Abbot. At some point, and this may be the proper time, I would like to mention the work I have been doing in the relationship of the variations of the sun to the weather.

Mr. Woodrum. Yes, sir.

VARIATIONS OF THE SUN RELATIVE TO THE WEATHER

Dr. Abbot. I gave a paper on the subject to the American Astronomical Society about 3 weeks ago, and I hope to give a longer lecture at the National Museum in February or March, in the Arthur lecture series. I have now, I think, fully demonstrated that the variation of the sun is a principal factor in producing weather, both in short periods and in long. The Chief of the Weather Bureau has been much interested in these studies, and has spent many hours with me, and we have had several of his research men at other conferences. He also invited me up to the Weather Bureau to set forth the matter some time ago, when there were present besides Weather Bureau men several officers of the Army, also, who are very much interested.

It is greatly to be regretted, I think, sir, that at the time in 1936 when we first discovered that the variation of the sun strongly affected the weather for 10 or 15 days in advance, that the amendment to the urgent deficiency bill which passed the Senate was rejected in conference. Otherwise we would have had, by this time, a sufficient number of observing stations so that we could have furnished the Weather Bureau and the armed services the benefit of this possibility of forecasting details of the weather for a couple of weeks in advance. But now, even if we had the priorities and the money, it would take a year to set up the necessary observatories, and possibly 2 years more of
continuous observing before we would be able to work out the very small sources of error which have to be worked out before we can get to sufficient accuracy to follow the solar variations. These are of the order of one-half to three-quarters of 1 percent in the sun, but nevertheless produce changes in the temperature of as much as 10 to 15 degrees at Washington and other stations, as much as 10 days after the change in the sun occurs.

We are endeavoring to find other methods of following the solar variation, which can be used immediately—but, so far, without success. Apparently, in order to measure thoroughly the variation of the sun, it will be necessary to have other stations like those three which we now occupy—one in Chile, one in California, and one in New Mexico—in regions of the highest degrees of cloudlessness, and at elevations from 7,500 feet to 9,000 feet.

We have felt that the study of this matter at this time was of very great importance, because, as you know, we have carried on these observations for about 20 years. In the long-interval variations—I mean to say, the study of the monthly mean values—the next years, of 1944, 1945, and 1946, we predict will be the most interesting period of this record which has occurred since 1922 and 1923.

We made a prediction based upon 14 periods, which have been found to be regular periods in variation of the sun, and which together exactly make up the apparently irregular march of solar variation. With the aid of these 14 periods we have made a prediction of what should occur from 1939, the time the record was closed in volume 6 of the Annals, up to 1946. Four years of that period have now elapsed and we have compared the prophecy with the event. So far, it has followed excellently well, so that we have every expectation that the very remarkable depression which occurred in 1923 will repeat itself in 1946. The observations are so valuable that although we have lost three of our skilled observers to the armed services, we have strongly endeavored to keep our three present stations in operation. By the assistance of the wives of a couple of the directors, so far we have managed to do so.

We feel that to close that record now, at this most interesting time, would indeed have been very unfortunate. I feel perfectly convinced now that we are able to prove to any fair-minded person that the variation of the sun, which we have observed for so many years, is really a main factor in weather, both in short and in long intervals.

Mr. Woodrum. That is very interesting, Doctor.

Dr. Wetmore, have you anything else to say on this subject?

Dr. Wetmore. Nothing further, thank you.

NATIONAL GALLERY OF ART

SALARIES AND EXPENSES

Mr. Woodrum. Could we now hear from Colonel McBride on the National Gallery of Art?

Colonel McBride. Mr. Chairman, we have prepared a statement on the National Gallery of Art, by way of justification of the estimates, which perhaps may be filed.
JUSTIFICATION OF ESTIMATE

Mr. Woodrum. Yes, if you will file that.
(The justification follows:

SMITHSONIAN INSTITUTION, NATIONAL GALLERY OF ART—SALARIES AND EXPENSES

JUSTIFICATION OF ESTIMATES

The National Gallery of Art was created by the act of Congress of March 24, 1937, which provided that the direction thereof should rest with a board of trustees composed of the Chief Justice of the United States (chairman), the Secretary of State, the Secretary of the Treasury, the Secretary of the Smithsonian Institution, and five general trustees. The general trustees are Mr. David K. E. Bruce, Mr. Lammot Belin, Mr. Duncan Phillips, Mr. Samuel H. Kress. Mr. Chester Dale has been selected as the fifth member to fill the vacancy created by the death, on October 26, 1943, of Mr. Joseph E. Widener.

In the President's message to Congress dated February 1, 1937, relative to the original gift, he stated in part: "The works of art thus offered to the Government constitute one of the finest and most valuable collections in existence containing only objects of the highest standard of quality. It is with a keen sense of appreciation of the generous purpose of the donor and the satisfaction that comes with the knowledge that such a splendid collection will be placed at the seat of our Government for the benefit and enjoyment of our people during all the years to come, that I submit this matter to the Congress."

Section 4 (a) of the act of March 24, 1937, provides that "The faith of the United States is pledged that, on completion of the National Gallery of Art by the donor in accordance with the terms of this act, and the acquisition from the donor of this collection of works of art, the United States will provide such funds as may be necessary for the upkeep of the National Gallery of Art and the administrative expenses and costs of operation thereof, including the protection and care of works of art acquired by the board, so that the National Gallery of Art shall be at all times properly maintained and the works of art contained therein shall be exhibited regularly to the general public free of charge."

Section 7 of the trust indenture dated June 24, 1937, providing for the construction of the building for the Gallery and the gift of the Mellon collection, states that the above provision is "an express condition of the trust of said collection of works of art, hereby created." This same condition appears in the trust indenture covering the gift of the Kress collection, as well as that of the Widener collection. Therefore, budget estimates should be sufficient to meet the trustee obligations to these donors.

The construction cost of the building for the National Gallery was in excess of $15,000,000. The uniformly high quality of the works of art therein has caused the National Gallery to take its place as one of the leading galleries in the world.

The installation of the famous Widener collection, including 101 paintings, 46 pieces of sculpture, tapestries, and other important objects of art, was effected during the past fiscal year; and the public—in the midst of this crucial period in world history—is now able to gain inspiration and enjoyment from this collection, which has rarely, if ever, been equaled—in quality or in scope—in any period of collecting in Europe or America.

The second notable addition during the past year was the gift to the Nation of Mr. Lessing J. Rosenwald's collection of approximately 6,500 prints and drawings. Well known to scholars throughout the world, it contains many unique woodcuts and engravings by the pioneer printmakers of the fifteenth century, as well as superb impressions by all the great masters of the graphic arts. Besides the rare prints by earlier masters, there are in the collection 91 engravings and 64 woodcuts by Albrecht Dürer; all the Van Dyck portrait etchings, many of them in the rare proof state; 230 etchings by Rembrandt; an extraordinary group of engravings and water colors by William Blake; 270 lithographs by Daumier; and 367 prints by Whistler.

In addition to these gifts, other donors—Mr. Chester Dale, the A. W. Mellon Educational and Charitable Trust, and others—during the past year have given a total of 169 paintings, 28 pieces of sculpture, and 138 prints.

The National Gallery of Art, on July 4, 1943, was made the permanent repository for the Index of American Design, a collection owned by the Federal Works Agency and temporarily located at the Metropolitan Museum in New York. This index consists of more than 22,000 documented drawings, water colors, oil paintings, and several thousands photographs, reflecting the American tradition of