

THE INSTITUTE FOR ADVANCED STUDY  
PRINCETON, NEW JERSEY

August 28, 1946

TO MEMBERS OF THE FACULTY:

I am proposing to include in Bulletin No. 12 a brief summary of the war work done by members of the Faculty. I enclose the statement I made about your activities to the Board of Trustees in October 1945. Is this satisfactory and complete? I am including, of course, your citation in a preliminary statement. I should be grateful if you would return it to me with your O.K. or with any additions or corrections which may be needed.

FRANK AYDELOTTE

*I have made some corrections.*

Professor Marston Morse. Technical Expert, Office of Chief of Ordnance, U. S. Army. Member of Executive Committee of Applied Mathematics Panel. Consultant to NDRC on photogrammetry and proximity fuse. Wrote some eighty technical reports on bomb ricochet, the design and use of bombs, shells and rockets, fragmentation theory and tests. Made the preliminary mathematical analyses of the optimum heights and effects of the proximity fuse. Wrote the standard directions issued by the Ordnance Dept. to the using services on the use of shells and bombs for fragment damage. Received citation for meritorious service from the War Dept.

*M Morse*

ALL COMMUNICATIONS SHOULD BE ACCOMPANIED BY CARBON COPY AND ADDRESSED TO

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO:

No. 200.6  
1566

ATTENTION OF

SPOTB - Bal. Br.

WAR DEPARTMENT

OFFICE OF THE CHIEF OF ORDNANCE  
WASHINGTON, D. C.

29 August 1944

Dr. Frank Aydelotte, Director  
Institute for Advanced Study  
Princeton, New Jersey

Dear Dr. Aydelotte:


The Ordnance Department wishes to express deep appreciation to the Institute for Advanced Study, for making the services of Professor H. Marston Morse available to this office.

Since devoting his exceptional talents to Ordnance problems, Professor Morse has established a Ballistic Research Section, which investigates mathematical problems arising from tactical needs. He has conducted important studies in the ricochet of bombs and shells, the clearance of enemy minefields, the effectiveness of bombs and their fragments, and many other subjects of vital interest to the Armed Forces. He has recommended new tactical uses for existing weapons, and changes in design of certain munitions, which have already had far-reaching effects.

Professor Morse's results are published in reports known as the T.D.B.S. series, which already number more than forty. They are widely used by all branches of the service, including the Air Forces, the Navy, and Allied Nations. This work is of great value, and should continue uninterruptedly so long as we are engaged in active combat.

For the Chief of Ordnance:

Very truly yours,

  
G. M. BARNES

Major General, Ordnance Department  
Chief, Research & Development Service



*Morse*

WAR DEPARTMENT

ARMY SERVICE FORCES

Commendation for Meritorious Civilian Service

To Whom It May Concern:

Prof. H. Marston Morse

has received official commendation and praise  
for outstanding performance of duty

CITATION:

In recognition of outstanding meritorious service for the Ordnance Department, Army Service Forces, in the field of mathematical analysis and research; for original studies in terminal ballistics, bomb fragmentation, clearance of minefields, and ricochet which are of great value to every branch of our Armed Forces and to Allied Nations; for recommendations which have enhanced the tactical usefulness of war weapons, and have improved the design of American munitions; for the keen insight and untiring energy with which his exceptional talents have been applied to the war effort.

W. H. CAMPBELL, Jr.  
Major General, Chief of Ordnance

BREHON SOMERVELL  
Lieutenant General, Commanding

Morse

THE INSTITUTE FOR ADVANCED STUDY  
SCHOOL OF MATHEMATICS  
PRINCETON, NEW JERSEY

October 13, 1945

War activities of Marston Morse

Abstract

While still an "expert consultant" of the Ordnance Department, U.S. Army, Morse goes to Washington only rarely, - but three times in the last four months. As Chairman of the Army Air Forces Staff Com. to recommend future development of an all-purpose fragmentation bomb (secret), he has recently completed a report on this subject in collaboration with representatives of the technical branches of the Army and Navy.

His work during the war is briefly summarized in the enclosed citation from General Sommervell.

-----  
In the course of the last three years he wrote (with the aid of Drs. Transue and Heins, former assistants in the Institute) eighty technical reports from 10 to 100 pages in length, in all over 2000 pages.

Among the subjects treated was the "radio" or "proximity" fuze which has been called second in importance to the atomic bomb and was perhaps first in direct influence on the prosecution of the war. While electronic experts prepared the fuze as a gadget, Morse made the principal mathematical analyses in the Army for the purpose of predicting the advantage before this fuze was made. He predicted the optimum height at which it should function, or optimum distance from the enemy plane at which it should burst. This varied with the shell, rocket or bomb. According to Dr. Elett, head of this work at the Bureau of Standards, Morse's heights of burst were built into the fuzes for the respective missiles. Various heights which had been proposed by others would, if adopted, have decreased the effect to one-third or less. Morse also wrote on the proper tactical use of this fuze: whether long range or short range, for gun or howitzer, for low or high-angle fire, against men or material, sheltered or in the open, distinguishing the situations where conventional weapons were superior or inferior.

The accompanying manual on Performance of Ammunition has been distributed throughout the armed forces (more than 10,000 copies). The pages with cut corners were written by Morse. Two other volumes of similar nature with other contributions by Morse have also been widely distributed. The damage diagrams in Morse's section are of a nature new in this war. The damage tables of Morse have been copied by

the Navy and by the British. The damage diagrams have been experimentally verified on water off the coast of Germany and off Iwo Jima.

Morse regards his work for the Army as finished for all practical purposes. He began work approximately three years ago and worked approximately one-half of his time for the Army Ordnance. He was also a Director of the Applied Mathematics Panel of the N.D.R.C. under Conant, but this work was for the most part advisory. Earlier work for the N.D.R.C. included new methods of mathematical analyses in photogrammetry. His principal work was on the analyses and design of weapons.

MM:GB

*Marston Morse*

C O P Y

WAR DEPARTMENT

ARMY SERVICE FORCES

COMMENDATION FOR MERITORIOUS CIVILIAN SERVICE

To Whom It May Concern:

PROF. H. MARSTON MORSE

has received official commendation and praise

for outstanding performance of duty

CITATION:

In recognition of outstanding meritorious service for the Ordnance Department, Army Service Forces, in the field of mathematical analysis and research; for original studies in terminal ballistics, bomb fragmentation, clearance of minefields, and ricochet which are of great value to every branch of our Armed Forces and to Allied Nations; for recommendations which have enhanced the tactical usefulness of war weapons, and have improved the design of American munitions; for the keen insight and untiring energy with which his exceptional talents have been applied to the war effort.

(Signed) A. H. CAMPBELL JR.  
Major General, Chief of Ordnance

(Signed) BREHON SOMMERVELL  
Lieutenant General, Commanding



August 3, 1945

Major General G. M. Barnes  
Chief of Research and Development Service  
Office of the Chief of Ordnance  
War Department  
Washington, D. C.

RE: OO, No. 201, 28 July 1945, Professor Marston Morse

Dear General Barnes:

I have just returned from England and find your letter of July 28th concerning Professor Morse's services as expert for the Ordnance Department. I shall be glad to put the arrangement you propose before our Trustees at their next meeting and meanwhile Professor Morse will continue on his present plan. We are very glad to do everything possible in support of the war effort and at the same time should greatly appreciate any arrangements you can make which will enable Professor Morse to consult with members of your Department here instead of his having to go to Washington.

Yours very sincerely,

Frank Aydelotte  
Director

FA:jer



ALL COMMUNICATIONS SHOULD BE ACCOMPANIED BY CARBON COPY AND ADDRESSED TO

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO:

WAR DEPARTMENT

OFFICE OF THE CHIEF OF ORDNANCE  
WASHINGTON, D. C.

NO. 201  
ATTENTION OF 28 July 45

28 July 1945

*Morse, Professor*

Dr. Frank Aydelotte, Director  
The Institute for Advanced Study  
Princeton, New Jersey

Dear Dr. Aydelotte:

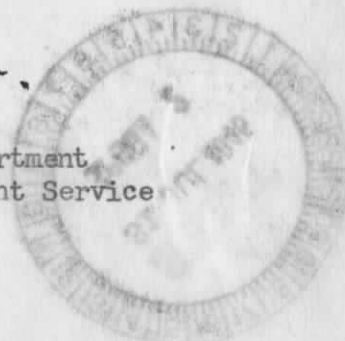
I am happy to learn that you will present to your Trustees our proposed arrangement regarding Professor Morse's services as Expert for the Ordnance Department during the fiscal year 1945-6. Professor Morse has already worked several days at this office and I understand he is more than satisfied with the proposed basis.

We recognize your desire for a minimum of trips to Washington by Professor Morse. In view of the increasing interest in fragmentation phenomena and contemplated research for more effective weapons of war, I feel I should point out to you the necessity for having Professor Morse here as often as conditions will permit. We shall make every effort to restrict the number of our calls upon Professor Morse's services in Washington to not more than two days every second week.

I hope your Trustees will take an early and favorable action on this matter at their next meeting.

Very sincerely yours,

*G. M. Barnes*  
G. M. BARNES  
Major General, Ordnance Department  
Chief of Research and Development Service



Reference:

OO No. 682.2/27389

Misc.

June 29, 1945

Dear General Barnes:

I have your letter of June 26th and should be glad to present the arrangement you propose to our Trustees for approval at their next meeting. I have every expectation that the Trustees will be satisfied with this arrangement and I am writing to Professor Morse today to say that he may act upon it between now and the time of our meeting of Trustees in October.

I should like to say that the more frequently you can send Drs. Transue and Meins to Princeton and the fewer the occasions for calling Professor Morse to Washington, the better it will be for the Institute and for Professor Morse's work.

Yours sincerely,

Frank Aydelotte  
Director

Major General G. M. Barnes  
Chief of Research and Development Service  
Office of the Chief of Ordnance  
Washington, D. C.

FA:KK

ALL COMMUNICATIONS SHOULD BE ACCOMPANIED BY CARBON COPY AND ADDRESSED TO

291  
167

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO:

WAR DEPARTMENT  
OFFICE OF THE CHIEF OF ORDNANCE  
WASHINGTON, D. C.

NO. *682.2*

ATTENTION OF

*27389*

26 June 1945

*Misc*

Dr. Frank Aydelotte, Director  
The Institute for Advanced Study  
Princeton, New Jersey

Dear Dr. Aydelotte:

Reference is made to your letter of 16 June 1945 regarding the retention by the Ordnance Department of Professor H. M. Morse in the capacity of Expert.

The Ordnance Department is pleased to learn your Trustees would probably consider an arrangement whereby Professor Morse could make occasional visits to Washington to assist us in our program. It is proposed that Professor Morse come to Washington for not more than two days every second week. Cases of extreme urgency may arise and require additional visits. It is anticipated, however, that the occurrence of such cases will be very rare.

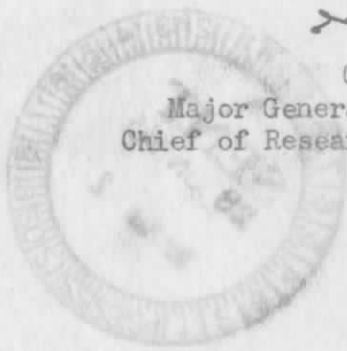
It is believed possible to send Drs. Transue and Heins to Princeton for occasional consultation with Professor Morse. In this connection your desire for a minimum of interruption of Professor Morse's academic work at the Institute will be respected. Drs. Transue and Heins will proceed to Princeton only when considered necessary.

The submitting of the foregoing to your Trustees and an early and favorable reply will be appreciated.

Very sincerely yours,

*[Signature]*

G. M. BARNES  
Major General, Ordnance Department  
Chief of Research and Development Service



Miss Kehoe:

Prof. Morse (to whom I read this by telephone)  
suggests changing the last sentence of the second  
paragraph to read:

"I am sure my Trustees would consent to some kind of  
arrangement by which he made occasional visits to  
Washington to advise you in your program, provided the  
great part of his work could be done here rather than  
in Washington."

GB

(Both versions enclosed herewith -KK)

June 16, 1945

My dear General:

I have your letter of June fourth stating that the Ordnance Department would like to retain the services of Professor H. Marston Morse for the fiscal year commencing June 1, 1945. In reply I wish to say that the period of Professor Morse's leave for this service expires June 30, 1945. We have been very glad indeed to be in a position to make his services available to the Ordnance Department and I have received with great satisfaction your statement as to the value of his work.

As the end of the war approaches, the work of the Institute is accelerating by leaps and bounds and we very much need Professor Morse's constant residence in Princeton. I am sure my Trustees would consent to some kind of arrangement by which he gave occasional advice to you in your program provided his work could be done here rather than in Washington.

Would it be feasible for you to send his assistants, Drs. Transue and Heins, up to Princeton from time to time to consult him, so as to make it possible to secure his assistance on your problems with a minimum of interruption of his academic work at the Institute? If you consider such an arrangement feasible, I should be very glad to mention it to my Trustees.

Believe me,

Very sincerely yours,

Frank Aydelotte, Director

Maj. Gen. G. M. Barnes  
Office of the Chief of Ordnance  
War Department  
Washington, D. C.

FA:KK

Reference: No. 201

22

22

ALL COMMUNICATIONS SHOULD BE ACCOMPANIED BY CARBON COPY AND ADDRESSED TO

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO:

WAR DEPARTMENT

OFFICE OF THE CHIEF OF ORDNANCE

WASHINGTON, D. C.

No. 201

ATTENTION OF

4 June 1945

June 4 - 45  
Morse, Marston H  
Doctor Frank Aydelotte, Director  
Institute For Advanced Study  
Princeton, New Jersey

Dear Dr. Aydelotte:

The Ordnance Department is extremely desirous of retaining the services of Professor H. Marston Morse in his capacity as Ordnance Expert, for the fiscal year commencing July 1, 1945. Undoubtedly you are aware of the cogent contribution Professor Morse has made to the Ordnance Department in its program of research and development.

Professor Morse, with his able assistants, Doctors Transue and Heins, has provided basic information for the design and development of new ordnance materiel. In one particular case, his work on optimum shapes of projectiles was employed in the design of a new type of missile. In the field of terminal ballistics, he has developed basic concepts in regard to fragmentation effects. Of even greater importance has been the preparation by Professor Morse of the results of his studies in a form permitting of immediate use by tactical commanders in the field.

It is not anticipated that the work of this office will be lessened during the next fiscal year, and in view of this fact, it would be appreciated if Professor Morse's services could be retained. It is anticipated that fewer demands would be made upon Professor Morse's time during the coming months by making certain adjustments, and it might not be necessary for him to spend as many days in Washington each week.

In view of the above, I would appreciate your advising me in this matter at your earliest convenience.

Very sincerely yours,

G. M. BARNES

Major General, Ordnance Department  
Chief of Research and Development Service





JJPower/hed

ALL COMMUNICATIONS SHOULD BE ACCOMPANIED BY CARBON COPY AND ADDRESSED TO

5827

11 JUN 1945

27

ORIGINAL FILED

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO:

No. \_\_\_\_\_

ATTENTION OF \_\_\_\_\_

WAR DEPARTMENT  
OFFICE OF THE CHIEF OF ORDNANCE  
WASHINGTON, D. C.

4 June 1945

Doctor Frank Aydelotte, Director  
Institute For Advanced Study  
Princeton, New Jersey

Dear Dr. Aydelotte:

The Ordnance Department is extremely desirous of retaining the services of Professor H. Marston Morse in his capacity as Ordnance Expert, for the fiscal year commencing July 1, 1945. Undoubtedly you are aware of the cogent contribution Professor Morse has made to the Ordnance Department in its program of research and development.

Professor Morse, with his able assistants, Doctors Transue and Heins, has provided basic information for the design and development of new ordnance materiel. In one particular case, his work on optimum shapes of projectiles was employed in the design of a new type of missile. In the field of terminal ballistics, he has developed basic concepts in regard to fragmentation effects. Of even greater importance has been the preparation by Professor Morse of the results of his studies in a form permitting of immediate use by tactical commanders in the field.

It is not anticipated that the work of this office will be lessened during the next fiscal year, and in view of this fact, it would be appreciated if Professor Morse's services could be retained. It is anticipated that fewer demands would be made upon Professor Morse's time during the coming months by making certain adjustments, and it might not be necessary for him to spend as many days in Washington each week.

In view of the above, I would appreciate your advising me in this matter at your earliest convenience.

Very sincerely yours,

G. M. BARNES  
Major General, Ordnance Department  
Chief of Research and Development Service





November 21, 1944

Mr. Donald C. Stuart, Jr.  
15 Maple Avenue  
Princeton, New Jersey

Dear Mr. Stuart:

Enclosed is a statement concerning the citation recently awarded to Professor Morse for publication in "The New York Times." We very much hope that they will find space for it. With reference to possible editing may I call your attention to the fact that the wording of sentence three should be retained exactly as it is given in the enclosed copy.

Very truly yours,

Jane S. Richardson  
Secretary to the Director

Enc. 1

*Copy also sent to  
Mrs. Samuel of the  
Princeton Herald  
11/21/44*

INSTITUTE FOR ADVANCED STUDY

PRESS RELEASE TO THE NEW YORK TIMES, NOVEMBER 21, 1944

Professor Marston Morse has received from the War Department the highest citation for which civilians are eligible in recognition of his scientific work, it was announced today by Dr. Frank Aydelotte, Director of the Institute for Advanced Study. Professor Morse has been working for two years for the Ordnance Department in the field of mathematical analysis and research connected especially with bombing problems. Professor Morse is classified as a Technical Expert in the Research and Development Division of the Ordnance Department and has organized a research unit of mathematicians in the Ballistics Section. The citation was awarded to Professor Morse by Major General Campbell on November 17th at a special convocation of older members of the Ordnance Department. The citation reads as follows:

"To Whom It May Concern: Professor H. Marston Morse has received official commendation and praise for outstanding performance of duty in recognition of outstanding meritorious service for the Ordnance Department, Army Service Forces, in the field of mathematical analysis and research; for original studies in terminal ballistics, bomb fragmentation, clearance of minefields, and ricochet which are of great value to every branch of our Armed Forces and to Allied Nations; for recommendations which have enhanced the tactical usefulness of war weapons, and have improved the design of American munitions; for the keen insight and untiring energy with which his exceptional talents have been applied to the war effort."

Professor Morse is Chairman of the Committee of Mathematics of the National Academy of Sciences and the National Research Council. He was a former president of the American Mathematical Society and a winner of the Bocher Prize. He was Lecturer of Mathematics by invitation at the Sorbonne and the Henry Poincare Institute and also lectured in five German universities. He was formerly Professor of Mathematics at Harvard University and came to the Institute for Advanced Study in 1935.

November 21, 1944

Professor Marston Morse  
40 Battle Road  
Princeton, New Jersey

Dear Professor Morse:

Dr. Aydelotte has asked me to send you  
the enclosed letter from Major General Barnes  
of the Ordnance Department which he intends  
to read to the Trustees at their next meeting.  
Dr. Aydelotte thought that you would be  
interested in reading it.

Yours sincerely,

Jane S. Richardson  
Secretary to Dr. Aydelotte

Enc. 1

Professor H. Marston Morse:

Professor Morse is classified as a Technical Expert in the Research and Development Division of the Ordnance Department and has organized a research unit of mathematicians in the Ballistics Section.

The citation was awarded to Professor Morse by Major General Campbell on November 17th at a special convocation of older members of the Ordnance Department

Professor Morse is Chairman of the Committee of Mathematics of the National Academy of Sciences and the National Research Council. He was a former president of the American Mathematical Society and a winner of the Bocher Prize. He was Lecturer of Mathematics by invitation at the Sorbonne and the Henry Poincare Institute and also lectured in five German universities.

11:20:44  
jsr



WAR DEPARTMENT

ARMY SERVICE FORCES

Commendation for Meritorious Civilian Service

To Whom It May Concern:

Prof. H. Marston Morse

has received official commendation and praise  
for outstanding performance of duty

CITATION:

In recognition of outstanding meritorious service for the Ordnance Department, Army Service Forces, in the field of mathematical analysis and research; for original studies in terminal ballistics, bomb fragmentation, clearance of minefields, and ricochet which are of great value to every branch of our Armed Forces and to Allied Nations; for recommendations which have enhanced the tactical usefulness of war weapons, and have improved the design of American munitions; for the keen insight and untiring energy with which his exceptional talents have been applied to the war effort.

W. H. CAMPBELL, Jr.  
Major General, Chief of Ordnance

BREHON SOMERVELL  
Lieutenant General, Commanding

*m. Morse*

OFFICE FOR EMERGENCY MANAGEMENT  
NATIONAL DEFENSE RESEARCH COMMITTEE  
OF THE  
OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT  
1530 P STREET NW.  
WASHINGTON, D. C.

JAMES B. CONANT, Chairman  
RICHARD C. TOLMAN, Vice Chairman  
ROGER ADAMS  
CONWAY P. COE  
KARL T. COMPTON  
FRANK B. JEWETT  
CAPT. LYBRAND P. SMITH  
MAJ. GEN. CLARENCE C. WILLIAMS  
IRVIN STEWART, Executive Secretary

Room 5500  
49 West 49th Street  
New York 20, N.Y.

February 5, 1944

Dr. Frank Aydelotte  
The Institute for Advanced Study  
Princeton, New Jersey

Dear Aydelotte:

Thank you for your letter of January 26. I am sorry to have bothered you with a superfluity of communications, but we were very anxious on this matter of Marston's joining the Panel.

We understand the circumstances, and although we would like to have substantially more, we are very pleased indeed to get as much of Marston's time as seems feasible. I am writing him today to make the arrangements for his more active association with us.

Very cordially,

*Warren Weaver*  
(R)

Warren Weaver, Chief  
Applied Mathematics Panel, NDRC

WW:CVB

cc - Professor Marston Morse



Room 5500  
49 West 49th Street  
New York 20, N.Y.

February 5, 1944

Professor H. Marston Morse  
The Institute for Advanced Study  
Princeton, New Jersey

Dear Marston:

The enclosed copy of the letter I have just written Dr. Aydelotte expresses our sentiments. We are all delighted to have you associated with us, and only wish the association could be more extensive.

Unless I hear from you to the contrary we will now write you down in the records as a member of the Executive Committee of the Applied Mathematics Panel. Miss Rees makes a careful record of the minutes of each one of our weekly meetings and these will, of course, be sent to you in the future. It is my further understanding that you will attend one meeting a month. We meet every Monday afternoon, normally at 2:30; and I see no reason why you cannot pick the Monday to suit your own convenience. I hope that on many of these occasions you will be able to come earlier in the day so that you can have informal conversations with members of the Executive Committee or visits to some of our large projects in New York. We will presently make further arrangements for furnishing you with all of the reports and other material which will be helpful in keeping you in as close touch as possible. I must say that we are all looking forward very eagerly to the pleasure of your presence and to the advantage of your knowledge and experience.

I saw Veblen at Aberdeen within the last couple of days, and in explaining to him that we had hoped to have an even more extensive association with the Ordnance Department, I expressed the hope that he would be willing to supplement your contact by himself attending some of our meetings. We are delighted that he has agreed to do so.

Very cordially,

Warren Weaver, Chief  
Applied Mathematics Panel, NDRC

cc - Dr. Frank Aydelotte  
Professor Oswald Veblen



CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

R. B. WHITE  
PRESIDENT

NEWCOMB CARLTON  
CHAIRMAN OF THE BOARD

J. C. WILLEVER  
FIRST VICE-PRESIDENT

SYMBOLS

DL = Day Letter

NL = Night Letter

LC = Deferred Cable

NLT = Cable Night Letter

Ship Radiogram

# WESTERN UNION

(59)

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

Received at **Lower Pyne Bldg., Princeton. N. J.**

NZ115 NL SCARSDALE NY 27

1944 JAN 27 PM 10 03

DR FRANK AYDELOTTE=

INSTITUTE FOR ADVANCED STUDY PRINCETON NJ=

WOULD BE GLAD TO COME TO PRINCETON TO DISCUSS POSSIBILITY  
OF MORSE SERVING ON APPLIED MATHEMATICS PANEL IF YOU THINK  
MY VISIT WOULD SERVE A USEFUL PURPOSE WE ARE VERY ANXIOUS TO  
REACH DECISION BUT MORE ANXIOUS TO OBTAIN MORSES HELP=

WARREN WEAVER.

CLASS OF SERVICE DESIRED	
DOMESTIC	CABLE
TELEGRAM	ORDINARY
DAY LETTER	URGENT RATE
SERIAL	DEFERRED
NIGHT LETTER	NIGHT LETTER
SPECIAL SERVICE	SHIP RADIOGRAM

Patrons should check class of service desired; otherwise the message will be transmitted as a telegram or ordinary cablegram.

# COPY OF WESTERN UNION TELEGRAM

January 28, 1944

Dr. Warren Weaver  
Room 5500  
49 West 49th Street  
New York, N. Y.

Visit not feasible this week Morse ill in bed with cold and  
overwork Would plan of one day per month suggested in my letter  
of Wednesday be of use to you Seems about all Morse can do in  
view of pressure of other government work

Frank Aydelotte

January 26, 1944

Dear Weaver:

I have only now had a chance to discuss with Morse the whole question of the Mathematics Panel and his connection with it. Would it be of any use to you if he gave one day a month to the work of the Panel? Morse thinks he could do that and he would be very glad to do it if that amount of time would be of any value to you.

The fact is that Morse's scientific work for the government has been very much increased lately by his service on certain invasion committees and it would, of course, be out of the question for him to curtail these activities at the moment. The result is that he has almost no time at home with his family and is carrying about as much of a load as his health will stand.

If, under the circumstances, the one-day-a-month arrangement could be made, that would be best for him and would give him the satisfaction of contributing at least something to your work, which he is anxious to do.

Yours sincerely,

FRANK AYDELOTTE

Dr. Warren Weaver  
Room 5500  
49 West 49th Street  
New York, N. Y.

FA/MCE

December 22, 1943

Dear Weaver:

I am very much interested in your letter of the 21st, which reached me promptly this morning. Everything I have heard about the Applied Mathematics Panel makes me realize how useful Morse would be to it, and I know that he feels the greatest interest in what you are doing.

I had a long talk with Morse about that particular matter one day last week. It so happens that his own researches are developing in a very interesting way and he is at the same time extraordinarily useful with young men here. The real answer would be for Morse to give a little less time to the Ordnance Department, and my first impulse is to try to persuade him to do that. I should myself like to see Morse able in one way or another to serve on the Executive Committee of the Applied Mathematics Panel. I will talk the whole matter over with him as soon as I can get hold of him and let you know whether there seems to be any possible way in which that can be managed.

With kindest regards, I am

Yours sincerely,

Frank Aydelotte

Dr. Warren Weaver  
Room 5500  
49 West 49th Street  
New York 20, N. Y.

FA/MCE

*Morse*

OFFICE FOR EMERGENCY MANAGEMENT  
NATIONAL DEFENSE RESEARCH COMMITTEE  
OF THE

OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT

1530 P STREET NW.

WASHINGTON, D. C.

JAMES B. CONANT, Chairman  
RICHARD C. TOLMAN, Vice Chairman  
ROGER ADAMS  
CONWAY P. COE  
KARL T. COMPTON  
FRANK B. JEWETT  
CAPT. LYBRAND P. SMITH  
MAJ. GEN. CLARENCE C. WILLIAMS

IRVIN STEWART, Executive Secretary

Room 5500  
49 West 49th St.  
New York City 20

December 21, 1943.

Dear Aydelotte:

I am not sure that you have had an actual opportunity to know anything particularly about the Applied Mathematics Panel of the NDRC. Let me simply say that it is an organization originally set up for the purpose of furnishing mathematical service and advice to the nineteen operating divisions of the NDRC; and in actual practice is also an organization which furnishes mathematical service directly to the Army and Navy. We have nearly 100 technically trained persons associated with the Panel in one capacity or another, and approximately 80 junior persons in computing, clerical, and other capacities. We have accepted approximately 100 specific mathematical jobs, a few over half of which have come to us directly from the Army and the Navy, and the remainder from the divisions of the NDRC.

This organization has as its central authoritative group the so-called Executive Committee of the Applied Mathematics Panel. This consists at present of five persons, and we are exceedingly anxious to add Marston Morse to this group. At the least this need only involve his attendance at our weekly meeting. We have been holding this on Monday afternoon, but would be willing to shift it to any time in the week to meet his possibilities.

I have talked to Marston about this and he has indicated that he is wholly sympathetic with our enterprise, and that he would find the association, both personally and professionally, congenial. He is, however, spending four days a week for the Ordnance Department, and they would not be willing to shorten this time. Marston indicated that there was a real doubt in his mind as to whether it was legitimate and proper and desirable for him to reduce still further his commitment of time to the Institute.

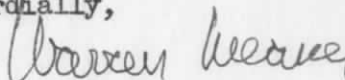
Marston is one of the very few outstanding pure mathematicians who can serve effectively in this rather curious enterprise of ours, and



- 2 -

it would mean everything in the world to us to have him in. The scope of our activity is enormously broader than that which he has contact with through the Ordnance Department; and it reaches definitely higher echelons than both the Army and the Navy. I could not help hoping that you would feel justified in making Marston feel that this was a wholly appropriate and desirable thing for him to do.

Cordially,



Warren Weaver  
Chief, Applied Mathematics Panel.

Dr. Frank Aydelotte  
Institute for Advanced Study  
Princeton  
New Jersey

WW:WH



December 23, 1943

Dear Morse:

I happened to be talking to Weaver about another matter and he spoke to me about his great eagerness to get you as a member of the Executive Committee of his Mathematics Panel and followed this up with a letter on the subject. I told Weaver that you had said to me that you were interested in the work of the Panel and would like to take part in it if it were not for the fact that your work for the Ordnance Department and your researches are completely filling your time.

Weaver thinks that you could probably make a more useful contribution to the war effort through the Mathematics Panel than in any other way. I have no idea myself about this, but what he said made me wonder whether it would be possible for you to give one day less each week to the Ordnance Department in order to sit on the Panel.

I promised Weaver that I would have a talk with you about it, but since you do not return until tomorrow and we are going off today I send you this note instead. If the work of the Panel is as central and important as Weaver seems to think and if he is right about the importance of the contribution which you could make to it, perhaps you ought to consider it a little further.

Yours sincerely,

FRANK AYDELOTTE

Professor Marston Morse  
40 Battle Road  
Princeton, New Jersey

FA/MCE



IN REPLY ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY  
AND NOT THE SIGNER OF THIS LETTER

DEPARTMENT OF COMMERCE

AND REFER TO NO. 26 mjc

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

April 4, 1942

Dr. Frank Aydelotte  
Director, Institute for Advanced Study  
Princeton, New Jersey

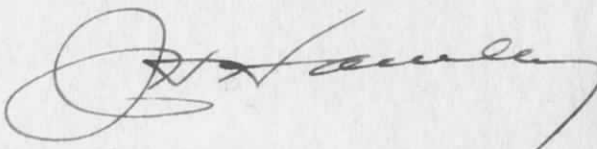
My dear Sir:

Professor Marston Morse of the Institute for Advanced Study recently has developed several mathematical solutions of problems in photogrammetry which are more direct and better suited to computation than those previously known. He has discussed these solutions and modifications of them with this office. It appears that further collaboration may prove of material assistance to the photogrammetric work of the U. S. Coast and Geodetic Survey.

In other branches of its work, this Bureau has the collaboration of a number of leading research scientists in their several fields. Each of these men has been appointed "Collaborator, U. S. Coast and Geodetic Survey", a position which gives official recognition of their assistance and permits the use of franked mail when correspondence is involved. As the law does not permit of the acceptance of services gratis, a salary of one dollar per year is paid.

It will be appreciated if you will approve the appointment of Professor Morse as a Collaborator in Photogrammetry, U. S. Coast and Geodetic Survey.

Very truly yours,

  
Acting Director

*Harvey*

April 8, 1942

Dear Mr. Hawley:

In reply to your letter of April 4th I wish to give on behalf of the Institute the warmest approval of the appointment of Professor Morse as a Collaborator in Photogrammetry in the U. S. Coast and Geodetic Survey. I am delighted that Professor Morse's researches have proved to have such great practical usefulness.

Yours sincerely,

FRANK AYDELOTTE, Director

Mr. J. H. Hawley, Acting Director  
U. S. Coast and Geodetic Survey  
Department of Commerce  
Washington, D. C.

FA/MCE

September 25, 1940

Dear Morse:

Many thanks for the sight of the report of your War Preparedness Committee. I read it carefully last night and congratulate you on the admirable way in which you have organized the mathematicians for national defense. I was particularly interested in the idea that in addition to the ordinary functions of mathematics there might be greater use made of them in industry. I take it that what is contemplated is something over and beyond the work of an ordinary engineer. That would be a remarkable achievement if you could carry it out.

Yours sincerely,

FRANK AYDELOTTE, Director

Professor Marston Morse  
Fuld Hall  
Princeton, New Jersey

FA/MCE