

*Fac
Va Neumann*

December 13, 1951

Memorandum to Professor von Neumann

Dr. Oppenheimer has seen the correspondence concerning your personal consultant arrangements with the International Business Machines Corporation, and he has asked me to tell you that he has no objection.

Sincerely yours,

Katherine Russell

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

Discontinue
7. 

SCHOOL OF MATHEMATICS

December 5, 1951

Dear Robert:

You will find attached the contract that I.B.M. proposed to me, plus the statements of the Army Ordnance Department. (They saw the contract, obtained legal advice, consulted their associates in the Institute's project, and, as you will see from the letters, approved the proposal.)

On the basis of our earlier conversations, I assume, that this proposal now has your approval too. As you know, I think that it is reasonable and in line with my interests, and not conflicting with those of the Institute or the Government, and I would like to accept it.

Could you, therefore, indicate that these assumptions are correct?

With best regards,

Yours,

John

John von Neumann

JvN:eg
Encls.

Dr. Robert Oppenheimer
Institute for Advanced Study
Princeton, N. J.

October 2, 1951

Dr. John von Neumann
The Institute for Advanced Study
Princeton, New Jersey

Dear Dr. von Neumann:

We are writing to confirm that we would like to have you act as a Consultant for us in connection with the mathematical and logical planning of computing machines, the uses of computing machines, the mathematical formulation of problems for machine solution and the mathematical and logical planning of setting up and coding problems for computing machines, and activities related thereto.

Apart from your consulting services to us, we want you to be free to make full use of your knowledge and work in this field. We would request, however, that you notify us if your services to other business organizations at any time overlap those to IBM.

It is understood that we will be free to use in our business the suggestions or recommendations you may make as our consultant with respect to our machines or systems.

Our consulting arrangement with you is in no way meant to interfere with any consulting or other arrangement you may have or may wish to enter into with the U.S. Government.

We would like to have you make yourself available to us for such consultation for a maximum of thirty days a year, and for this service we would pay you a retainer fee of _____ per annum to be paid in twelve equal installments, payable on or before the last day of each month. If you are called upon and are willing to serve more days per year, we would be willing to pay _____ per day for such additional time. We would also agree to pay your travelling expenses incurred at our request, and your living expenses away from home at our request.

Dr. John von Neumann

- 2 -

October 5, 1951

If and when you are agreeable to serve us in this connection, please so indicate by signing and returning to us the acceptance on the attached copy of this letter, whereupon this letter will constitute an agreement with us to the above effect, which agreement shall become binding as of the first of the month immediately following upon the date of your signature, and shall continue from year to year, unless terminated by either party by written notice to the other of such termination at least three months prior to the end of any contract year, such termination to take effect as of the last day of that contract year. It is also understood that, prior to your acceptance of this arrangement, you will have checked with the Institute for Advanced Study and the U.S. Government to ascertain that these provisions do not interfere with any present or contemplated arrangements between you and these parties and is entirely agreeable to them.

Very truly yours,

International Business Machines Corporation

By

John C. McPherson
Vice President

Accepted:

By

Dr. John von Neumann

Date



DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ORDNANCE
WASHINGTON 25, D. C.

IN REPLY REFER TO:

ORDTX

30 NOV 1951

Professor John von Neumann
The Institute for Advanced Study
Princeton, New Jersey

Dear Professor von Neumann:

Supplementing letter from this office dated 19 November 1951, and confirming telephone conversation with you of 28 November, the absence of any objection on the part of the Ordnance Corps to your entering into agreement with the International Business Machines Corporation may be considered as including absence of any objection on the part of the other Services which participate in the Ordnance contract performed by the Institute for Advanced Study.

Oral statement has been obtained from Dr. Charles Smith of the Navy Department, Major Ralph Hopkins and Dr. E. P. Little of the Air Force, and Dr. P. W. McDaniel of AEC, that their Service has no objection to your entering into the proposed agreement with the International Business Machines Corporation. The foregoing persons are the technical administrators of the IAS contract for their respective Services.

Inasmuch as the Ordnance Corps is the contracting agency with IAS, this office has coordinated these arrangements for the other government agencies who are participants.

Sincerely yours,

ERLENE E. SINGH
Brigadier General, USA
Assistant Chief of Ordnance

CC

Dr. Charles Smith (Navy Dept)
Dr. E. P. Little (Air Force)
Maj Ralph Hopkins (Air Force)
Dr. McDaniel (AEC)
Legal Office

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ORDNANCE
WASHINGTON 25, D. C.

19 November 1951

Professor John von Neumann
The Institute for Advanced Study
Princeton, New Jersey

Dear Professor von Neumann:

Your recent letter to General Simon, with reference to the proposed agreement with the International Business Machines Corporation, was referred to our Legal Office for their comment. Unfortunately, this comment was not forthcoming before General Simon had to leave on an extended trip.

In his absence I have consulted with our Legal Office and discussed the proposal which you forwarded to us. From the legal aspect, for which of course we can speak only for the Ordnance Corps, there is no reason why you should not enter into the agreement with the International Business Machines Corporation. Further, we can see no ethical reason why such an arrangement is not perfectly proper.

I hope this information will answer your questions. Should any further comments be desired, I will develop them with General Simon upon his return.

Sincerely yours,

/s/ J. A. BARCLAY

Colonel, Ord Corps

January 19, 1951

Dear Professor von Neumann:

It gives me pleasure to inform you that by unanimous vote of the Board of Trustees of the Institute for Advanced Study, your salary as Professor in the School of Mathematics has been increased to \$18,000 per year as of the beginning of the next fiscal year, July 1, 1951.

Robert Oppenheimer

Professor John von Neumann
Institute for Advanced Study
Princeton, N.J.

Copy: Miss Trinterud

*For
J. Neumann*

October 4, 1950

Dear Norris:

I have just received your letter of September 30th, and Robert had also mentioned to me the matter to which it refers. I shall be glad to be at your disposal, and I will accordingly arrange things so that I can be at Los Alamos on October 30th to November 1st.

I am also looking forward to receiving the papers concerning the subject that you mentioned. Since I had previously agreed with Carson and with Edward that I would come to Los Alamos for about two weeks in the course of October, it seems to me that it will be best if I arrange to get there about the middle of the month, and to stay through until the meetings that you mention take place. I am, therefore, trying to get railroad reservations which will get me to Los Alamos in the afternoon of Sunday, October 15th, and I will then plan to stay until November 2nd.

In view of this, I assume that it will be best if I plan to give my possible comments regarding the papers that you will send me, orally, after my arrival at Los Alamos.

Looking forward to seeing you before long, I am, with best personal regards,

Sincerely yours,

JOHN VON NEUMANN

JVN:eg

Dr. Morris E. Bradbury, Director
Los Alamos Scientific Laboratory
P.O. Box 1663
Los Alamos, New Mexico

cc: R. Oppenheimer ✓
C. Mark

Memorandum

To.....Date.....

From.....Re.....

von Neumann summer 1950 addresses:

July 4 to July 22 - Los Alamos Scientific Laboratories

July 22 to Aug. 2nd - Princeton

Aug. 2 to Aug. 23 - Universidad de los Andes
Bogota, Columbia
c/o Dr. Mario Lesenna

(Note: back in Princeton by Aug. 23.
attending Congress Aug. 30 to Sept. 6

UNIVERSITY OF CALIFORNIA
LOS ALAMOS SCIENTIFIC LABORATORY

(CONTRACT W-7405, ENG. 36)

OFFICE OF THE BUSINESS MANAGER
P. O. BOX 1663
LOS ALAMOS, NEW MEXICO

July 27, 1948

Palmer, Trout & Company
1040 Clinton Avenue
Trenton, New Jersey

Re: Our order LB-469

Dear Sirs:

I have been advised under date of June 2 that you delivered to Professor John von Neumann one four drawer, three-way combination, Herring-Hall Model safe file. Professor von Neumann ordered this file to take care of work which he is performing for the Laboratory and we are therefore enclosing our confirmation purchase order number LB-469 to you to cover.

The University of California, Los Alamos Scientific Laboratory is operating under government contract number W7405, Eng 36 with the U.S. Atomic Energy Commission and under the terms of this contract are required to purchase items of this nature at prices as quoted on the Treasury Procurement Schedules. We therefore hope that your firm will be in a position to bill us at these prices.

When submitting the bills to this office in quadruplicate, it is requested that you furnish a description of the file and also the catalogue number in order that our records will be properly substantiated.

Yours very truly,

ORIGINAL SIGNED BY A. E. DYHRE

A.E.Dybre,
Business Manager

AED:ecw
Enc - Order LB-469

cc: H.S.Allen
Mrs. Russell



*Doc
V. von Neumann*

7 - von Neumann

August 4, 1949

Dear Mr. Tomizawa:

Your letter of July 30th, asking for information about Professor John von Neumann's work here, has been received.

Under the project of which Professor von Neumann is the head, the Institute is doing work in theoretical meteorology. We do not think that your readers would be particularly interested in this sort of study. For the type information you wish, you might write to Dr. Langmuir at General Electric in Schenectady; perhaps you have already done this since Dr. Langmuir is doing work in the field you are covering.

We are very sorry we cannot be more helpful.

Yours sincerely,

(Mrs. John D. Leary)
Aide to the Director

Mr. Thomas Tomizawa
823 Gaffield Place
Evanston, Illinois

57.50

Thomas Tomizawa
823 Gaffield Pl.
Evanston, Illinois

July 30, 1949

Dept. of Information
Institute For Advanced Study
Princeton, New Jersey

Dear Sirs:

I have been informed of Dr. John von Neumann's work in regard to weather study and the possibility of precipitation control.

I am preparing a magazine article on past and present efforts to produce rain. I shall be greatly pleased if you can inform me of the latest scientific developments resulting from your organization's experiments.

Respectfully,

Thos. Tomizawa

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→ Langmuir - G. T. Schen.
P. O. -

UNIVERSITY OF CALIFORNIA
LOS ALAMOS SCIENTIFIC LABORATORY
(CONTRACT W-7405-ENG-36)
P. O. Box 1663
Los Alamos, New Mexico

*File
Faculty
J. von Neumann*

IN REPLY
REFER TO:

September 1, 1948

Dr. Robert Oppenheimer
Institute for Advanced Study
Princeton, New Jersey

Dear Robert,

I would like to recommend that no part of my salary should be charged to the Computer Contract. We made a charge of this nature in one exeptional case in 1946-47, but I think that it is in better agreement with our consistent position to refrain from making this a policy.

Sincerely yours,

John

John vonNeumann.

JvN/mag

Bradley knows this?

7
Faculty
von Neumann

June 22, 1948

Dear Mr. Dyhre:

Your letter of June 8th has been received in Dr. Oppenheimer's absence from Princeton. I have, however, contacted Dr. Oppenheimer by telephone and he has agreed to a renewal of the consultant agreement between the Los Alamos Scientific Laboratory and Professor John von Neumann. This letter is your authorization to deal directly with Professor von Neumann with regard to a renewal of his contract with you.

Yours sincerely,

Katherine Russell,
Secretary

Mr. A. E. Dyhre
Office of the Business Manager
Los Alamos Scientific Laboratory
P. O. Box 1663
Los Alamos, New Mexico

UNIVERSITY OF CALIFORNIA
LOS ALAMOS SCIENTIFIC LABORATORY

(CONTRACT W-7405, ENG. 36)

OFFICE OF THE BUSINESS MANAGER
P. O. BOX 1663
LOS ALAMOS, NEW MEXICO

June 8, 1948

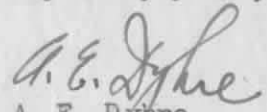
J. R. Oppenheimer, Director,
Institute for Advanced Study,
Princeton, New Jersey

Dear Dr. Oppenheimer:

The Director of this laboratory, Dr. N. E. Bradbury, has requested that I contact you relative to your acceptance in allowing us to renew the consultant agreement with Dr. John von Neumann, whose present agreement expires June 30, 1948.

May we have your authorization to deal directly with him relative to renewing his present agreement to cover the period July 1, 1948 through June 30, 1949?

Very truly yours,


A. E. Dyhre,
Business Manager

ds

cc:Dr.N.E.Bradbury
C.Canfield

John von Neumann

April 7, 1948

Neumann, John von

Ph.D. 1926 Univ. Budapest
Ing. Chem. 1926 E.T.H. Zurich

Born Dec. 28, 1903, Budapest, Hungary

Citizenship - ~~Hungary~~ Naturalized USA Jan. 8/37, No. 4196342 (US Dist. Ct., Trenton, N.J.)

Married

Princeton home address - 26 Westcott Rd.

Telephone - 2186

Honors and societies:

AMS, MAA, ~~German Math. Soc.~~, Hungarian Math. Soc., Amer. Phys. Soc, NAS 1937- ,
Amer. Phil. Soc. 1938- , Sigma Xi, Asso. Mem. Academia Nacional de Ciencias
Exactas of Lima Peru, Amer. Acad. Arts and Sci. (Fellow May 10/44-), Bocher
Prize 1938. AMS Colloquium Lecturer 1937, AMS Gibbs Lecturer 1944, Chmn. Math.
Div. NAS 1946- ; Chmn. NAS-NRC Com. in Math. Advisory to Director, Planning Div.,
Off. Naval Research 1947- ;

Positions held:

Rockefeller Fellowship 1926

Berlin Univ. - Privatdozent 1927-29; ($\frac{1}{2}$? time) Privatdozent 1931-32

Hamburg Univ. - Privatdozent 1929-30

Princeton Univ. - Vis. Lecturer 1930-31; Prof. Math. Phys. ($\frac{1}{2}$? time) 1931-33

IAS - Prof. 1933-

US Navy 1942 and other war work through World War II

Waterford, Conn.
14 August 1947

Dear John:

I am very sorry to say that I do not believe I can get down to Princeton August 15th when you return. Please let me know here of any questions which come up on which you would like my advice.

I have a question on which I would like your advice, namely the enclosed letter from Bmerat of the Rockefeller Foundation asking about Alexiewicz and Mostowski. If you know anything about them I should be most grateful if you would write to the Rockefeller Foundation direct.

Yours sincerely,

Professor John von Neumann
Institute for Advanced Study
Princeton, N.J.

TELEGRAM

Princeton, N.J.
July 19, 1947

Hughes, Chairman Ordnance
Washington, D.C.

Replying your telegram von Neumann at Los Alamos until August 10th.

Frank Aydelotte , Director
Institute for Advanced Study

Charge Institute

2685f

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.

WESTERN UNION

JOSEPH L. EGAN
PRESIDENT

1201

SYMBOLS

DL = Day Letter
NL = Night Letter
LC = Deferred Cable
NLT = Cable Night Letter
Ship Radiogram

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

P20 GOVT NL PD=NEWYORK NY 17
INSTITUTE OF ADVANCED STUDY PS=

1947 JUL 18 AM 7 20

J R MOORE CMA DESIGN RESEARCH DIV CMA BUR OF AERO CMA NAVY
CMA HAS BEEN AUTHORIZED TO VISIT IAS ON 21 JULY 1947 FOR
CONFERENCE WITH DR ²⁹CON NEUMAN WITH REGARD TO USE OF
PRINCETON COMPUTING SYSTEM IN CONNECTION WITH DATA
⁴²RECITION PD CLEARED THROUGH SECRET PD END CITE ORDTB
OKELLEY TT ORD 4523=

HUGHES CH ORD WASHINGTON DC 172004Z

BUR OF AERO 21 1947 ORDTB TT ORD 4523 172004Z ALSO IAS
CON PP(RECITION

L APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

July 17, 1947

MEMORANDUM FOR LUELLE TRINTERUD:

I have just had a visit from Mr. Hahn, together with a financial assistant, Mr. Weimar, to talk over certain features of the financial administration of our contracts. They were especially concerned about overhead and may want us at some later time to make some accounting of the way in which we spend the money allowed for overhead on some such basis as the total cost of the administration of the Institute and the proportion of that cost which is involved in these contracts. I told them that whenever they wanted such an accounting we would make it for them, expecting that you would be the person to do it.

They questioned whether Miss Zacherl's salary should be put down as a charge against the contracts and whether she should not be paid by us and figured as a part of the cost of overhead.

They questioned whether we should have Dr. Goldstine sign expense vouchers, etc., since he is not strictly speaking himself a member of the Institute. They would be happier if these were signed either by Professor von Neumann or by you. You would have to have an O.K. on them by somebody who knew the details. I think there would be no difficulty in figuring this out.

I was a little surprised to learn that the entire appropriation from the United States Government for the computer project is only a little over \$160,000 of which \$20,000 goes into the sub-contract with New York University, leaving only \$140,000 net for the computer. Is this correct or are we getting funds from some other department of the Government which these men do not know about?

I want to discuss this all over with you and shall then prepare suitable memoranda for Professor von Neumann and other people concerned.

FRANK AYDELOTTE

Copy for Miss Miller

July 14, 1947

Professor John von Neumann
P. O. Box 1663
Santa Fe, New Mexico

Dear John:

What do you think about the enclosed application from Dr. Gagle? I am asking Henry Smyth about laboratory facilities at Princeton University.

I have your letter of July 11th and hope you will not allow the Weitzmann business to trouble you. This is the kind of job that every administrator has to face.

I am glad that Dorothy Owles is taking care of your affairs. She seems to have made a good impression on everybody and I am meditating a small increase in her salary.

Yours sincerely,

Frank Aydelotte

LOS ALAMOS SCIENTIFIC LABORATORY

P. O. Box 1663

LOS ALAMOS, NEW MEXICO

IN REPLY
REFER TO:

July 11, 1947.

Dear Frank,

I have just received your letter in which you informed me about the incident involving my secretary, Miss Wirtman. I am very sorry that this has happened, and that she has caused you and the Institutes staff so much embarrassment. I am in complete accord with your suggestions, and I see from an other letter that I received today, that Miss Dorothy Owles is already taking care of my affairs temporarily. After my return I will look around for a permanent replacement. I am much obliged to you for having already given some thought to this matter, too.

I would like to repeat what I wrote you in my preceding letter: I feel very sorry about the fact, that somebody who was more

LOS ALAMOS SCIENTIFIC LABORATORY

PLATE 1003

LOS ALAMOS, NEW MEXICO

closely associated with me has
caused this unusual amount of
administrative trouble.

I am

very truly Yours

John

July 11, 1947

My dear Mr. Snyder:

We are in receipt of your postcard regarding a course of study here at the Institute on large-scale computing machines. Unfortunately we do not contemplate offering courses on this subject in the near future. However, we have put out one or two reports on the subject which may be of interest to you. The first of these entitled "A Logical Design of an Electronic Computing Instrument" unfortunately is out of print, but we are now revising it and will be most happy to send you a copy when the next edition comes out. I am enclosing herewith Part II of that Report, which I hope will be of some use to you.

I recall that Commander Pendergast, Office of the Chief of Naval Operations, whom you probably know through your work, has a copy of the first volume and can probably tell you a good bit about what we are doing.

In any case we would be most happy to have you visit us at any time after the middle of August.

Very truly yours,

Herman Goldstine

To-
Mr. S. S. Snyder
Army Security Agency
Washington 25, D. C.

11 July 1947

Dear John:

Many thanks for your letter of July 7th and for all the trouble you are taking about Castilla. The New Republic article is the inevitable kind of thing that it is impossible to prevent, but it is amusing to have it written by Kahn.

As you heard from Goldstine, some difficulties came up about Miss Weitzman's telephone accounts and she practically severed relations with our business office. I asked her to come in to see me and requested that she put the accounts in order. She replied that she was not prepared to do this and wished instead to resign her position as your secretary. I told her that under the circumstances I felt I should have to advise you to accept her resignation, and on the same day wrote her a letter copy of which I have already sent you.

I think Miss Weitzman is a person of ability but she seems to be constitutionally unfitted to work as a member of an organization, and her lack of ordinary courtesy is the cause of constant complaint.

Incidentally, several interesting people have applied for secretarial positions at the Institute. I have said nothing about your job, but have taken their names and hope to have them ready for you to interview when you return to Princeton.

We have not yet been able to get away, largely owing to the difficulty of moving the 6000 books which I have at Olden Manor to 88 Battle Road, where there was originally room for only 600. I find the slowness of the carpenters in building new book shelves a terrible nuisance, but there seems to be nothing to do but sit around and wait until they have finished.

Yours sincerely,

Professor John von Neumann
P.O. Box 1663
Los Alamos, New Mexico

LOS ALAMOS SCIENTIFIC LABORATORY

P. O. Box 1663

LOS ALAMOS, NEW MEXICO

IN REPLY
REFER TO:

July 7, 1947

Dear Frank,
please excuse my delay in
answering your letter of June 30, the
delay is due to the complexities of the
"extended weekend" of July 4-6, which
affected the mails and all other
communications around here very
adversely.

Many thanks for mentioning the
"New Republic" ~~the~~ article, I saw it, too.
I didn't know about its being written,
and I would have preferred, of course,
if we had not been "written up" —
however these matters seem to be
completely beyond human control. I
understand that ~~see above how much~~
the man who actually wrote most
of the article is ~~per. A.~~ A. S. Kahn,
who worked for a while on our
Meteorology Project, and is now with
~~the~~ the National Bureau of Standards.
(Confidentially: The piquanterie of the
situation is, as you may recall, that we
practically fired Kahn last winter, —
although we parted on friendly terms
and I helped him some in getting
subsequently a job with the Bureau of

Standards.

I have looked at Castilla's paper, but I think that I can get here much more expert opinions on this subject, than my own. Specifically I will ask my friend E. Teller, who is a member of the Institute of Nuclear Studies at the University of Chicago, and who is here for the summer, to read the paper and to tell me what he thinks of it. I will then report to you.

I have just learned from Goldstone, that there have been further difficulties with Miss Weizman. I want to take this opportunity to tell you, how sorry I am that there is trouble, and continuing trouble, with somebody who is particularly associated with me. I took Miss Weizman on, because everybody who interviewed her (including Miss Richardson and myself) was ~~at~~ prima facie impressed by her as a very superior secretary - I am afraid that we may all have been wrong. She should certainly

LOS ALAMOS SCIENTIFIC LABORATORY

P. O. Box 1663

LOS ALAMOS, NEW MEXICO

IN REPLY
REFER TO:

have had the fact not to be involved in such an unceasing chain of incidents. As soon as I get back I will look into the situations and I am affraid that the conclusion may well have to be that she does not fit into the Institute. I have tried to help her to get all the successive chances that any employee should get, but it does not seem that this will work out.

Please do not mention this to the Institute staff yet, I think that I should talk to her first, but I feel that I owe you a personal apology for all this imbroglio right now, and this is the sense in which I am writing.

I am yours very sincerely
John.

June 30, 1947

Dear John:

Have you seen this article in the New Republic? If not, it will amuse you. I enclose a copy but should be grateful if you would return it to me for the Institute files after you have had a chance to read it.

I am sending you at the same time an article by Dr. Antonio Castilla, together with some correspondence I have had with him on the subject of the synthesis of neutrons. Do you think it has any value and what should we do about it?

Yours sincerely,

Professor John von Neumann
Institute for Advanced Study
Princeton, New Jersey

June 10, 1947

Professor John von Neumann
Institute for Advanced Study
Princeton, New Jersey

Dear John:

I have approved salt tablets, electric fans and the loan to Soutar with some misgivings in each case. Will you undertake in accordance with our conversation, to say to Soutar that we consider him still on trial and that we do not assure him of his position beyond December 31, 1947?

I am still a little disturbed about the whole question of order and discipline in the computer project and am afraid that the atmosphere is a little bit injured by its proximity to the Institute. Insofar as the computer project partakes as you say of the nature of an industrial operation it should, of course, be run on industrial lines. Insofar as it is a research project the methods of the Institute are applicable. I can see the difficulties which you face in assimilating these two points of view.

I am wondering whether it might not save money and increase the effectiveness of the project if you had some kind of an executive director with enough intelligence and human understanding to reconcile these two methods of work and with enough authority to say what could and could not be done. It occurs to me that such a man might take over Soutar's functions at the same time so that you would really not be adding a new member to your staff. A man who combines scientific knowledge with practical ability like Holbrooke MacNeille would be ideal for the purpose though it probably should be a younger man than MacNeille who would not need so high a salary. I should be grateful if you would think about this and come in to discuss it with me at your convenience.

Yours sincerely,

Frank Aydelotte

Copy to Miss Miller

not sent,

Substance reported to
Prof. Von Neumann
verbally.

June 5, 1947

Professor John von Neumann
Institute for Advanced Study
Princeton, New Jersey

Dear John:

I am a little troubled about the tea service in the electronic computer building. Apparently the members of your staff consume several times as much supplies as the same number of people do in Fuld Hall and they have been especially unfair in the matter of sugar. Sugar is rationed and for a member of your staff to come up here as Thompson did and carry down a large quantity of sugar in excess of your rations is not cricket. I understand, furthermore, that the tea is served in several different places. We have never undertaken in the Institute to provide tea service in a large number of private offices and I should like to raise the question whether it would not be better for the computer people to come up to Fuld Hall at the end of the day at five o'clock in the afternoon and have their tea here under proper supervision. The only alternative seems to me to be to establish some central place in the computer building and have proper supervision there.

I am also a little embarrassed to have a request from Soutar for salt tablets. Most of us have worked in Princeton throughout the summer all through the war years without any therapeutic agents of this kind and I should be embarrassed to have to justify such an item in our accounts. I think that you might say to Soutar that he should exercise a little more supervision over his requisitions from the point of view of justifying them to our Trustees and to the Government. It would give us all more confidence in his discretion as purchasing agent.

Yours sincerely,

Frank Aydelotte

Copy to Miss Miller

MATHEMATICS PROJECT - CONTRACT NOrd 9596

STATEMENT OF TOTAL EXPENDITURES

SEPTEMBER, 1945 through MAY, 1947

	<u>Previous total</u>	<u>May</u>	<u>Total</u>
Salaries	\$ 29,404.36	\$ 745.84	\$ 30,150.20
Postal, Telephone, Telegraph & Express	60.68	7.45	68.13
Travel & Subsistence	248.27	31.59	279.86
Insurance & TIAA	177.37	22.92	200.29
Books and Supplies	449.00		449.00
Overhead	<u>7,690.07</u>	<u>1,158.76</u>	<u>8,848.83</u>
	\$ 38,029.75	\$ 1,966.56	\$ 39,996.31

Prepared by Henrietta Zacherl

Submitted by Lulla J. J. J.

June 19, 1947

Sent to: Treasurer's Office
Copies to: Dr. Aydelotte ✓
Prof. von Neumann
Dr. Goldstine
Mr. Hahn

ELECTRONIC COMPUTER PROJECT

STATEMENT OF EXPENDITURES FROM BEGINNING NOVEMBER, 1945

to May 31, 1947

	<u>Previous Total</u>	<u>May</u>	<u>Total</u>
Salaries	\$ 56,562.63	\$ 5,543.46	\$ 62,106.09
Office Supplies	1,085.90	77.97	1,163.87
Research Materials and Supplies	19,152.01	2,168.12	21,320.13
Postal, Telephone, Telegraph & Express	1,685.58	52.20	1,737.78
Travel & Subsistence	1,969.35	236.87	2,206.22
TIAA & Insurance	569.48		569.48
Conferences	60.12	2.50	62.62
Building	43,181.89	(688.11) (17,583.97)	61,453.97
Accounts Receivable	806.25		806.25
Capital Equipment	6,134.52		6,134.52
Legal Counsel	771.87	569.00	1,340.87
Heat, light & Power	413.33	132.88	546.21
Furniture & Fixtures	3.92	2,101.06	2,104.98
Building Maintenance and Supplies	<u>40.31</u>	<u>203.55</u>	<u>243.86</u>
	\$ 132,437.16	\$ 29,359.69	\$ 161,796.85

Sent to: Treasurer's Office
Copies to: Dr. Aydelotte ✓
Prof. von Neumann
Dr. Goldstine

Prepared by

Henrietta Zacherl

Submitted by

L. Hunter

June 18, 1947

METEOROLOGY CONTRACT N6ori 139- TASK #1

STATEMENT OF TOTAL DISBURSEMENTS, JUNE 1946 through MAY 1947

	<u>Previous Total</u>	<u>May</u>	<u>Total</u>
Salaries	\$ 11,500.83	\$ 1,597.20	\$ 13,098.03
Books and Supplies	265.09		265.09
Postal, Telephone, Telegraph and Express	131.64	3.98	135.62
Travel and Subsistence	2,261.75	191.23	2,452.98
Conferences	81.45		81.45
Overhead	<u>3,538.84</u>	<u>1,061.49</u>	<u>4,600.33</u>
	\$ 17,779.60	\$ 2,853.90	\$ 20,633.50

Prepared by

Leyrietta Zacherl

Submitted by

Lucella Hunter

June 19, 1947

Sent to: Treasurer's Office

Copies to: Dr. Aydelotte
Prof. von Neumann
Dr. Goldstine
Mr. Rahn

I don't plan to do anything about it except show it to Dr. Applebottle when he returns, If you have any advice on it please let me know,

*JS Richardson
1/17/47*

January 13, 1947

Miss Trinterud has in detail at present.

Dr. John vonNeumann
Princeton University
Princeton, New Jersey

Dear Dr. vonNeumann:

Your proposal to visit Los Alamos in a consultant capacity for about three weeks in February meets with the approval of all concerned here.

Will you please advise us the details of your arrival as early as possible so that local arrangements can be made.

Very truly yours,

Armand W. Kelly
Employment Director

AWK:jl

cc: Head, Institute for Advanced Study
Princeton University

Please return to Dr. Applebottle,

ELECTRONIC COMPUTER PROJECT

STATEMENT OF EXPENDITURES FROM BEGINNING NOVEMBER, 1945
to JANUARY 31, 1947

	<u>9/30/46</u>	<u>October</u>	<u>November</u>	<u>December</u>	<u>January</u>	<u>TOTAL</u>
Salaries	\$23,739.20	\$5,227.03	\$ 4,475.66	\$4,553.78	\$4,188.95	\$42,184.62
Office Supplies	318.49	232.77	54.40	76.55	78.22	760.43
Research Mat. & Supplies	11,482.68	1,622.43	1,209.38	383.80	572.48	15,270.77
Postal, Tele- phone, Tele- graph & Express	662.95	41.44	217.96	261.74	120.84	1,304.93
Travel and Subsistence	1,309.20	98.68	87.20	54.98	110.71	1,660.77
Insurance and TIAA	164.36	11.46	11.46	11.46	11.46	210.20
Entertainment	41.37	10.85			.60	52.82
Building	5,064.37		38,065.23			43,129.60
Accounts Receivable			150.00	65.00	463.50	678.50
Capital Equipment	3,956.77	915.00	650.00		390.00	5,911.77
Legal Counsel	621.87			150.00		771.87
	<u>\$47,361.26</u>	<u>\$8,159.66</u>	<u>\$44,801.44</u>	<u>\$5,547.23</u>	<u>\$5,936.76</u>	<u>\$111,936.28</u>

Prepared by

Henrietta Zacherl

Submitted by

L. Minten

Date

1-31-47

Sent to: Treasurer's Office

Copies to: Dr. Aydelotte ✓
Professor von Neumann
Cr. Goldstine

March 19, 1947

Paul E. Lichlyter, Esq., Acting Chief
Division of Patent Administration
Office of Alien Property
Department of Justice
Washington 25, D. C.

Dear Mr. Lichlyter:

I appreciate very warmly your kind letter of March 17th about Professor von Neumann's problem. I have talked over with Professor von Neumann your very clear statement of the case and I am writing to ask whether you would be so kind as to have a talk with him about it and give him the benefit of your advice concerning certain details of the course of action which you have suggested.

I have suggested to Professor von Neumann that a frank unofficial talk with you might do very much more to clear up the case. I feel this partly because I am quite certain that you would enjoy getting a first-hand impression of Professor von Neumann's intelligence and integrity. I would have suggested this long ago except that Professor von Neumann has been so occupied in research for the United States Government in Princeton, in Los Alamos and in Bikini that he really had no time to give to his own affairs. Professor von Neumann is going to be in Washington on Friday and I venture to suggest to him that he telephone you for an appointment.

With renewed thanks for your kindness, I am

Yours sincerely,

Frank Aydelotte

Copy to Professor von Neumann

THE INSTITUTE FOR ADVANCED STUDY
Founded by Mr. Louis Bamberger and Mrs. Felix Fuld
PRINCETON, NEW JERSEY

March 18, 1947

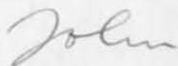
Dear Frank:

After having slept over it, I regret that I did not take your good advice at once: Not to call Mr. Lichlyter of the Alien Property Custodian's Office at once, but to wait for his reply or to call on him when I am in Washington anyhow. I see that you are right and I will act accordingly.

I have to go to Washington anyhow some time in the next ten days or so. I think that I will do it this Friday and possibly try to get in touch with Mr. Lichlyter then.

Thanking you once more for your very kind and repeated help in this matter.

Yours sincerely,



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

JvN:JSR

27 May 1947

Mr. Jack C. McDermott
Acting Chief, International Press
and Publications Division
Department of State
Washington, D. C.

Dear Mr. McDermott:

Mr. Osborne, the Publicity Director of Princeton University, has forwarded me your letter of May 12 relative to an article entitled, "Electronic Computers Save Scientists Brain Power". As you may not know, the Institute is a quite separate entity from Princeton University, and although we maintain the closest possible relationship with the University, we are not affiliated with it. I am enclosing herewith the latest bulletin of the Institute which will give you some information regarding our institution. You will also find in there a brief statement with regard to the Electronic Computer Project.

As you will notice in our bulletin, the Project is being sponsored partly by us and partly by the Research and Development Division of the Ordnance Department, U. S. Army. We, on our part, are quite willing to supply whatever photographic material you wish for your article. I suggest, however, that you get in touch with Colonel G. F. Powell, Office of the Chief of Ordnance, ORDTB, The Pentagon Building, and tell him of your desire in this matter. He has in his possession a number of photographs of preliminary models and other material which would probably be of interest to you.

I feel sure that you will agree that the course of action I suggested above is the best way to proceed in this matter since otherwise we might risk offending our co-sponsor.

Very truly yours,

Frank Aydelotte
Director

ak

cc, Dr. Gals

16 May 1947

Dear Goldstine:

I enclose a letter from the Department of State about computers. They want some photographs of ours. I think we ought to supply them. Can you find somebody who will take suitable pictures for this purpose? I should include the computer building and pictures of any components that are now in a position to be photographed. It looks to me as if the Department of State confused the Institute with Princeton University, and I think it would consequently be better if you gave me these photographs to send to Mr. McDermott. I will explain to him that Mr. Osborne has referred the letter to me, that the Institute is separate from Princeton University, and that we are glad to furnish him these pictures.

Yours sincerely,

Dr. H. H. Goldstine
Institute for Advanced Study

ADDRESS OFFICIAL COMMUNICATIONS TO
THE SECRETARY OF STATE
WASHINGTON 25, D. C.

DEPARTMENT OF STATE
WASHINGTON

Publicity



In reply refer to
INP

May 12, 1947

My dear Mr. Osborne:

The Department has prepared an article entitled, "Electronic Computers Save Scientists Brain Power", for publication in magazines and newspapers outside the United States. It is concerned in part with the machine now being developed at the Institute of Advanced Studies. We are anxious to illustrate this with photographs showing the progress of the work, construction, models, etc.

Your cooperation in supplying photographs you consider suitable for illustrating this article would be greatly appreciated.

If you can meet this request, the photographs should be addressed to Mr. Joseph H. Brewer, Department of State, OIC-INP, Room 1405 Auditor's Building, 14th and Independence Avenue, S.W., Washington, D. C.

Sincerely yours,

Jack C. McDermott
Jack C. McDermott

Acting Chief
International Press and
Publications Division

Mr. Frederick Spring Osborne,
Publicity Director,
Princeton University,
Princeton, New Jersey.

METEOROLOGY CONTRACT N6ori 139 - TASK #1

STATEMENT OF TOTAL DISBURSEMENTS, JUNE 1946 through APRIL 1947

	<u>Previous Totals</u>	<u>April</u>	<u>Totals</u>
Salaries	\$10,134.60	\$1,308.33	\$11,442.93
Books and Supplies	265.09		265.09
Postal, Telephone, Telegraph & Express	82.16	49.48	131.64
Travel and Subsistence	2,012.52	550.23	2,562.75
Entertainment	81.45		81.45
OVERHEAD	<u>3,538.84</u>	<u> </u>	<u>3,538.84</u>
	\$16,114.66	\$1,908.04	\$18,022.70

Prepared by

H. Zacher

Submitted by

L. F. Finkler

Date

5-2-47

Sent to: Treasurer's Office
Copies to: Dr. Aydelotte ✓
Prof. von Neumann
Dr. Goldstine
Mr. Hahn

ELECTRONIC COMPUTER PROJECT

STATEMENT OF EXPENDITURES FROM BEGINNING NOVEMBER, 1945

to April 30, 1947

	<u>Previous Total</u>	<u>April</u>	<u>Total</u>
Salaries	\$51,420.64	\$5,141.99	\$56,562.63
Office Supplies	881.45	204.45	1,085.90
Research Mat. and Supplies	17,431.16	1,720.85	19,152.01
Postal, Tele- phone, Tele- graph & Express	1,427.55	258.03	1,685.58
Travel and Subsistence	1,907.58	61.77	1,969.35
Insurance and TIAA	233.12	336.36	569.48
Entertainment	60.12		60.12
Building	43,129.60	52.29	43,181.89
Accounts Receivable	778.50	27.75	806.25
Capital Equipment	5,911.77	222.75	6,134.52
Legal Counsel	771.87		771.87
Heat, Light and Power	307.18	106.15	413.33
Furniture and Fixtures		3.92	3.92
Building Maintenance and Supplies		<u>40.31</u>	<u>40.31</u>
	\$124,260.54	\$8,176.62	\$132,437.16

Sent to: Treasurer's Office
Copies to: Dr. Aydelotte ✓
Prof. von Neumann
Dr. Goldstine

Prepared by Henrietta Zacherl
Submitted by L. Winter
Date _____

MATHEMATICS PROJECT - CONTRACT NOrd 9596

STATEMENT OF TOTAL EXPENDITURES

SEPTEMBER, 1945 through APRIL, 1947

	<u>Previous Total</u>	<u>April</u>	<u>Total</u>
Salaries	\$28,575.19	\$829.17	\$29,404.36
Postal, Telephone Telegraph & Express	38.55	22.13	60.68
Travel and Subsistence	224.27	24.00	248.27
Insurance and TIAA	165.91	11.46	177.37
Books and Supplies	449.00		449.00
OVERHEAD	<u>7,690.07</u>	<u> </u>	<u>7,690.07</u>
	\$37,142.99	\$886.76	\$38,029.75

Prepared by A. Zachard
Submitted by L. Winter
Date 5-1-47

Sent to: Treasurer's Office
Copies to: Dr. Aydelotte ✓
Prof. von Neumann
Dr. Goldstine
Mr. Hahn

PARADE OF PROGRESS. shirley carle & robert frazier

*PM von Neumann
I have checked
we should do
anything and
this JG*

S.C. Frazier
195 Kingston Avenue.
Brooklyn 13, New York
Tel: BARclay 7-1781

Dear Sir:

We are conducting a weekly science page for PARADE magazine, a Sunday supplement that goes to over 3½ million people in the United States.

This page will feature photos and descriptions of new machines and devices for home, industrial, personal, commercial and medical use; and information about new scientific developments and discoveries.

If any of your clients are producing or planning to produce such devices as fit the above descriptions, please put us on the mailing list for the receipt of pictures and information of same....plus news about their latest scientific developments.

Your interest and cooperation in this behalf is greatly appreciated.

Sincerely yours,

S. Frazier

S. Carle Frazier
(also editor of AIR WORLD)

*I too think that the
Frazier letter requires
no action. Fr. Aydelotte
did answer the
Clingerman letter some
weeks ago.*

Jv.N.

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.

WESTERN
UNION (28)

JOSEPH L. EGAN
PRESIDENT

1201

SYMBOLS

DL = Day Letter

NL = Night Letter

LC = Deferred Cable

NLT = Cable Night Letter

Ship Radiogram

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

P179 PD=BF PHILADELPHIA PENN 25 950A

1947 APR 25 AM 10 41

MISS JANE RICHARDSON=

INSTITUTE FOR ADVANCED STUDY

GLAD SEE VONNEUMANNABOUT THREE SATURDAY SUGGEST MEET HIS
OFFICE=

FRANK AYDELOTTE.

*I have given Van Neumann
this message through his secretary
and assume the appointment holds.
Thanks
R*

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

C R O S S R E F E R E N C E

Date: April 11, 1947

FILE: IAS John von Neumann

RE: Request for physicist interested in fluid dynamics

SEE: IAS American Air Filter Company, Inc.

April 7, 1947

Professor H. D. Smyth
213 Palmer Physical Laboratory
Princeton University
Princeton, New Jersey

Dear Professor Smyth:

At Dr. Aydelotte's request I telephoned Professor von Neumann and invited him to the meeting and luncheon for representatives of the Brookhaven Laboratory on Thursday, April 10th. Professor von Neumann will be delighted to come. He would appreciate it very much, however, if you would send him a confirmation of the time and place of both the meeting and the luncheon.

Yours sincerely,

Jane S. Richardson
Secretary to Dr. Aydelotte



IN REPLY ADDRESS BOTH
COMMUNICATION AND EN-
VELOPE TO COMMANDING
GENERAL, AIR MATERIEL
COMMAND, ATTENTION
FOLLOWING OFFICE SYMBOL:

TSNAD-2B

Von Neumann

HEADQUARTERS
AIR MATERIEL COMMAND

WRIGHT FIELD, DAYTON, OHIO

24 March 1947

The Institute for Advanced Study
Princeton, New Jersey

ATTENTION: Mr. Frank Aydelotte
Director

Gentlemen:

Reference is made to your letter dated 7 March 1947 in connection with a list of all undergraduate and graduate theses to be completed by your university this June or by September 1947.

Mimeographed copies of reports in connection with the electronic computer as they become available from time to time would be desired by this office.

Research papers and theses acquired by this Command will be critically reviewed to determine their merits so that abstracts, summaries or complete reprints may be published in an Army Air Forces monthly publication. This publication will be instituted in the near future for circularization to authorized agencies, including industry and educational institutions participating in this program.

Your kind attention and indicated cooperation in this matter are greatly appreciated.

Sincerely yours,

W. R. Clingerman
for **W. R. CLINGERMAN**
Colonel, Air Corps
Chief, Analysis Division
Intelligence (T-2)

COPY FOR PROFESSOR MORSE

At Sea,
R.M.S. Queen Elizabeth,
January 22, 1946.

Professor John Von Neumann,
Institute for Advanced Study,
Princeton, New Jersey.

Dear John:

I received your radiogram and fired a message back to you immediately authorizing you to add the name of the Institute to the other institutions petitioning for a laboratory in the East. I discussed this project several times, you will remember, with Harry Smyth and yourself.

As I once intimated to Smyth, I should myself be willing to go further and to offer the Government a site for the laboratory on Institute grounds. We would have an ideal location for it and I could hardly think of any place in the East that would be more convenient.

all universities

We should have to be careful, of course, not to undertake to pay out of our own funds the expenses of running the laboratory. That is a job for the Government or possibly for some of the great Foundations. It has occurred to me that the institutes interested might contribute something by giving members of their faculties leave of absence on full salary to work in the laboratory for periods of one or two years. I am convinced that ways could be found to secure effective research without the appalling expenditure which has characterized this field in the past.

If the ship-to-shore telephone had been working I would have tried to make all of these points to you by telephone, but I did not see how to embody them in a radio message. I am sending this air mail and hope it will reach you by about the 28th. Please keep me fully informed by cable or telephone of the progress which you make. I am sending a copy of this letter to Morse. I

- 2 -

am sorry to say that I am dictating this letter in bed, trying to get rid of one of the heaviest colds I ever had. I think it is largely a matter of fatigue and of being a little over-strenuous during my recent few days in Princeton.

With kindest regards, I am,

Yours sincerely,

Frank Aydelotte

Copy to Professor Marston Morse.
Copy to Miss Jane Richardson.

FA:frw

File No. 2185
S444

December 14, 1942

Dear Mr. Wilson:

Mrs. von Neumann tells me that because of the fact that she is technically an enemy alien additional references are needed in connection with her citizenship. I am very happy to have the opportunity to fill out the enclosed form as one of these references and wish at the same time to recommend very strongly that Mrs. von Neumann's naturalization should be put through immediately.

The form which I enclose is largely concerned with questions as to un-American activities. So far as Mrs. von Neumann is concerned, the record is absolutely clear. She has engaged in no un-American activities and, on the other hand, she does have a very intelligent and positive understanding of the ideals of the American government and she is most eager to do everything in her power to protect and further those ideals. Her husband, who is a naturalized citizen, is doing extremely important work in the national defense and Mrs. von Neumann has sought for every possible opportunity in connection with Red Cross work and other activities of that kind to make herself useful to the same end.

Yours sincerely,

FRANK AYDELOTTE, Director

Mr. C. Wilson
Immigration Office
Department of Justice
New Custom House
Philadelphia, Pennsylvania

FA/MCE

September 22, 1942

Honorable Charles M. Phillips
United States Attorney
Post Office Building
Trenton, New Jersey

My dear Mr. Phillips:

At the request of Mrs. Klari von Neumann,
26 Westcott Road, Princeton, New Jersey, I am
writing to tell you that she is taking up temporary
residence in Washington, D. C., where her husband
is engaged in war work. Mrs. von Neumann's
Washington address is 1822 Columbia Road, N. W.
Her alien registration number is 2776802.

Very truly yours,

Secretary to the Director

Copy to
Postmaster, Princeton, New Jersey
Immigration & Naturalization Service, Philadelphia

21 July 1942

Dear Mr. Mülle:

I am writing to ask whether there would be any possibility of hastening action on the naturalization of Mrs. Klari von Neumann of 26 Westcott Road, Princeton, N.J. Mrs. von Neumann is the wife of Professor John von Neumann of the Institute faculty. She was born in Hungary, but since she married an American citizen she lost her Hungarian citizenship in 1938. Her application was made in December, 1941 after the necessary three years residence in the United States, and all the formalities, as I understand it, have been completed except final action on her application. She had her first hearing in January, 1942, and I believe that her papers are now in your office.

This final action, I believe, rests upon proof of her loyalty to the American government and the sincerity of her desire to become a citizen of this country. You will doubtless have in her dossier evidence on this point, but I venture to add my own statement that I can in this respect recommend Mrs. von Neumann in the highest terms. She is a thoughtful person, keenly sensitive to the significance of American citizenship and completely loyal to the principles for which this government stands.

Her husband, Professor von Neumann, is at present in the employ of the United States Navy engaged upon important confidential scientific work and is making a contribution believed to be of great importance to the American war effort. This fact adds further urgency to both Mr. and Mrs. von Neumann's desire that she should receive her naturalization papers at the earliest possible moment that is consistent with the policy of our government. I should be most grateful for anything you can do to expedite the completion of this case.

Yours very sincerely,

FRANK AYDELOTTE

Henry L. Mülle, Esq.
Assistant District Director
Bureau of Immigration and Naturalization
Room 400, Market Street National Bank
Philadelphia, Pennsylvania

Copy to Prof. von Neumann

Date *December 13., 1941.*

Full name *Klara von Neumann*

Alien Registration No. *2776802*
Identity Card No. *1003490*

Date and place of birth *August 18, 1901 - Budapest, Hungary*

Married or single *Married* Name of wife or husband *John von Neumann*

Citizenship *None* Name and age of dependent children and registration numbers *None*

Under what kind of visa did you enter the United States? *Non quota immigrant, Sec. (Wife of US citizen) 4a*

What kind of visa do you hold now? *Same*

Visa No. *94*

Place and date of issue *Budapest, Hungary, November 25, 1938*

When does visa expire? *It is immigration visa for permanent residence*

When and where did you enter the United States? *December 15, 1938 - New York City*

When does entry permit expire? _____

Statement of relevant facts, including plans for citizenship *My naturalization proceedings are now under way — as wife of a US citizen I am eligible for naturalization after 3 years residence*

Princeton home address *26 Westcott Road*

Telephone *2186*

Permanent address *same*

If automobile owner, give (1) automobile license number *LN 10 L*
(2) driver's license number *102404*

College or university, degrees, year conferred _____

Honors and societies _____

Positions you have held, giving dates, or are holding (including any graduate scholarships and fellowships)

Voluntary statement of any other facts which may be of possible use to the United States government.

- 1) My husband is a US citizen.*
- 2) I lost my Hungarian citizenship by marriage to him — according to Hungarian law — on Nov. 18, 1938. I am not, and have not been since my arrival to this country — a citizen of Hungary, or subject of Hungary.*

(Use other side of sheet, if necessary)

Date **Dec. 13, 1941**

Full name **Klara von Neumann** Alien Registration No. **2776802**
Identity card No. **1009490**

Date and place of birth **Aug. 18, 1911 Budapest, Hungary**

Married or single **married** Name of wife or husband **John von Neumann**

Citizenship **none** Name and age of dependent children and registration numbers **none**

Under what kind of visa did you enter the United States? **Non-quota immigrant, sec. 4 a (Wife of U.S. citizen)**

What kind of visa do you hold now? **same**

Visa No. **94** Place and date of issue **Budapest, Hungary Nov. 25, 1938**

When does visa expire? **It is immigration visa for permanent residence**

When and where did you enter the United States? **Dec. 15, 1938 New York City**

When does entry permit expire? **-----**

Statement of relevant facts, including plans for citizenship **My naturalization proceedings are now under way—as wife of a U.S. citizen I am eligible for naturalization after 3 years's residence.**

Princeton home address **26 Westcott Road** Telephone **2186**

Permanent address **same**

If automobile owner, give (1) automobile license number **LN 10 L**
(2) driver's license number **102404**

College or university, degrees, year conferred **—**

Honors and societies **—**

Positions you have held, giving dates, or are holding (including any graduate scholarships and fellowships)

—

Voluntary statement of any other facts which may be of possible use to the United States government.

- 1. My husband is a U.S. citizen.**
- 2. I lost my Hungarian citizenship by marriage to him—according to Hungarian law—on Nov. 18, 1938. I am not and have not been since my arrival to this country a citizen of Hungary, or subject of Hungary.**

Records of the Office of the Director / Faculty Files / Box 34 / von Neumann, John 1941-1951
From the Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ

connection with JvN election to
membership in Acad Lincei. I thought
it might interest you.

Herman A.G.

Even before the present age of specialization, few people have ever contributed significantly to several branches of science, and all of them have a permanent record in the annals of the History of Science. Dr. von Neumann has made fundamental contributions to Mathematics, Physics and Economics. Furthermore, his contributions are not disjointed and separate remarks in these fields, but arise from a common point of view. Mathematics was always closest to his heart, and it is the Science to which he has contributed most fundamentally. These contributions will, therefore, be reviewed first.

The Mathematical Papers of Dr. von Neumann

Mathematical Logic. The earliest significant mathematical work of von Neumann concerns Mathematical Logic, where he was a forerunner of the epochal work of Gödel. His accomplishments can be summarized under two headings: Axiomatics of Set Theory and Hilbert's Proof Theory. In both of these subjects he obtained results of cardinal importance.

von Neumann was the first to set up an axiomatic system of set theory satisfying the following two conditions: 1. It allows to develop the theory of the whole series of cardinal numbers; 2. Its axioms are finite in number and expressible in the lower calculus of functions. Moreover, in deriving the theorems on sets from his axioms, he gave the first satisfactory formulation and derivation of definition by transfinite induction. von Neumann's work on this subject already shows his power and the elegance of much of his later work. It contains a full clarification of the significance of the axioms with regard to the elimination of the paradoxes. He first showed how the

paradoxes are related to the theory of types, and then proved that a set exists (this implies that it does not lead to contradictions) if, and only if, the multitude of its elements is not of the same cardinality as the multitude of all things. He also demonstrated that this proposition implies the axiom of choice.

As to Hilbert's proof theory, von Neumann clarified the concept of a formal system to a considerable extent. His articles contain the first unobjectionable proof for the fundamental theorem that the classical calculus of propositions and quantifiers as applied to computable functions and predicates is consistent.

Operator Theory. The work of von Neumann which will be remembered longest concerns the theory of the Hilbert space and of Operators in that space. His papers on this subject can be divided into three groups:

(I) the properties and structure of Hilbert spaces as such; (II) studies of linear operators involving in essence only a single operator; (III) studies of whole algebras of operators.

(I) von Neumann gave the first axiomatic treatment of Hilbert space, described the relation of Hilbert spaces to all other Banach spaces. A good exposition of his point of view on linear spaces is given in his book on Functional Operators.

(II) In a remarkable paper, von Neumann gave the complete theory of extensions of Hermitian operators H on Hilbert space to maximal and self-adjoint operators, by means of the Cayley transform $(H + iI)(H - iI)^{-1}$. By the same transform, he established the spectral theorem for self-adjoint operators, i.e., he construed a set of projection operators $E(\lambda)$ with the

property that $H(H = H^*)$ admit a spectral resolution $(Hf, g) = \int \lambda d(E(\lambda)f, g)$. He derived a similar theorem for normal operators. The spectral theorem has enormous importance in applications, and von Neumann's work has been of great influence.

(III) Partly in collaboration with Murray, von Neumann founded the theory of weakly closed, self-adjoint algebras ("rings") of bounded linear operators. They first studied "factors", i.e., rings generalizing simple algebras, and developed a "direct sum" theory for rings of operators. The effect of von Neumann's work here is enormous. A whole school has grown up in the past decade devoted to a study of operator rings and their abstract analogues.

The influence of von Neumann's interest in groups can be detected in all phases of his work on operators. In particular, the direct sum theory has many applications in the theory of unitary representations of non-Abelian non-compact groups, as shown in the work of Mackey, Godement, Mautner, Segal, and Gel'fand and his school. von Neumann's work on not bounded operators has heavily colored analysis in the past 25 years. It seems safe to predict that his work on operator rings will color it even more strongly during the next 25.

von Neumann was one of the founders of the Theory of Games. In spite of the nearly thirty years that have passed since von Neumann's first paper was written on this subject, and in spite of the intensive development of the theory in these thirty years, there is very little in his first paper that would be revised today. It is, as many of his early papers, strongly under the influence of the axiomatic thinking, and gives a formal system which permits a complete description of all the intricacies of a game, with play and counterplay, chance and deception. The paper contains a rigorous

definition for the concepts of pure strategy (a complete plan, formulated prior to the contest, making all necessary decisions in advance) and of mixed strategy (the use of a chance device to pick the strategy for each contest). Although similar concepts were used before (by Zermelo and by Borel), no one has used them before with the same incisiveness as von Neumann when establishing the "minimax theorem" for zero sum two-person games. This theorem, which has proved most valuable also for von Neumann's studies in Economics, also gave the key to the analysis of games with more than two players, permitting the formation of alliances and camps between the players.

The preceding three subjects are the ones which come to mind at once when writing about von Neumann's contributions to Mathematics. However, they are surely not the only fields which have profited from his fertile imagination. He has made significant contributions literally to every branch of Mathematics, with the exception of Topology and Number Theory. His knowledge of Mathematics is almost encyclopedic -- again excepting the aforementioned two fields -- and he has given help and advice on many subjects to collaborators and casual visitors, possibly to a greater extent than any other living mathematician.

von Neumann's Work in Theoretical Physics

It would be very difficult to tell which of von Neumann's contributions to theoretical physics was more important: the direct or the indirect ones. Four of his direct contributions are known to all physicists. His recognition that vectors in Hilbert space are the proper mathematical concept to describe the states of physical systems in quantum mechanics is unique in the sense that no other person would have realized this fact for

many years. Closely related to this observation is his description of quantum mechanics itself. The sketch of his ideas in this connection, presented in Chapter VI of his MATHEMATISCHE GRUNDLAGEN DER QUANTENMECHANIK, still constitutes inspiring reading. von Neumann's third main contribution is the application of the concept of the mixture of quantum mechanical states -- which he invented independently from Landau -- to problems of thermodynamics and statistical mechanics. The considerations on irreversibility, in both classical and quantum physics, were his fourth major contribution. These contributions, and some others of a more specialized nature, would have secured him a distinguished position in present-day theoretical physics quite independently from his indirect contributions.

von Neumann developed several mathematical concepts and theorems which became important for the theoretical physicist; he probably developed them with these applications in mind. In fact, it often seems to the theoretical physicist that the best of von Neumann's mathematical work was motivated by its projected usefulness in some applied science. From the point of view of the theoretical physicist, his two most important mathematical contributions were the theory of non-bounded self adjoint or normal operators in Hilbert space and the decomposition of representations of non compact groups, carried out in collaboration with Mautner (both of these were described in the preceding Section). Many of von Neumann's colleagues think that his late work, centered around the development of fast computing machines, was also motivated by his desire to give a helping hand to his colleagues in mathematics' sister sciences.

No appraisal of von Neumann's contributions to theoretical physics would be complete without a mention of the guidance and help which he so freely gave to his friends and acquaintances, both contemporary and younger

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than himself. There are well-known theoretical physicists who believe they have learned more from von Neumann in personal conversations than from any of their colleagues. They value what they have learned from him in the way of mathematical theorems, but they value even more highly what they have learned from him in methods of thinking and ways of mathematical argument.

von Neumann's Contributions to Economics

von Neumann's contributions to Economics were based on his Theory of Games, and also on his model of an expanding economy. The Theory of Games has relevance in many fields outside that of Economics; it answers a desire first voiced by Leibnitz but not before fulfilled. It has been stated (by Professor Copeland, Michigan) that his theory may be "one of the major scientific contributions of the first half of the 20th century" (American Math. Monthly, 1945). The theory rests on von Neumann's Minimax theorem whose significance and depth are only gradually becoming clear. The theory gives a new foundation to economics and bases economic theory on much weaker, far less restrictive assumptions than was the case thus far. The current analogy between economics and mechanics has been replaced by a new one with games of strategy. Entirely new mathematical tools have been invented by von Neumann to cope with the new conceptual situations found. This work has given rise to the publication by many authors of several books and several hundred articles. His study of an expanding economy is the first proof that an economic system with a uniform rate of expansion can exist and that the rate of expansion would have to equal the rate of interest. This study has deeply influenced many other scholars and will unquestionably become even

more significant now that problems of growth are being so widely investigated by economists.

The Theory of Computers

The principal interest of von Neumann in his later years was in the possibilities and theory of the computing machine. He contributed to the development of computing machines in three ways: First of all, by recognizing the importance of computing machines for Mathematics, Physics, Economics and many problems of industrial and military nature. Second, he translated his realization of the significance of computing machines into active sponsorship of a computer -- called JOHNIAC by his affectionate collaborators -- which served as a model for several of the most important computers in the United States. Third, he gave a theory of the functioning of the computer which reminds one of the axiomatic formulation of Mathematics, a subject to which he devoted so much of his early youth. He was the first one to formulate a theory for coding by devising a basic "vocabulary", which could be understood by a machine and in terms of which mathematical problems could be formulated. von Neumann was also first to formulate the procedures and rules for programming of machines; he was the first to formulate the criteria and desiderata for modern electronic computing machines.

One of the problems which the JOHNIAC is currently tackling is weather prediction on a long-range scale. The group to undertake this was organized by von Neumann in 1947, and stimulated the organization of several similar groups elsewhere. It promises to revolutionize weather prediction in the foreseeable future.

von Neumann

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

CONFIDENTIAL

October 11, 1945

Dear Doctor Aydelotte:

In accordance with your request of October 9 I am hereby submitting to you the information about my war work from 1940 to date. You will realize that this information is mostly of a confidential character, and I understand that it is solely for official use between you and the Institute Board of Trustees.

I have been connected as a consultant with the Ballistic Research Laboratory of the United States Army Ordnance Department at the Aberdeen Proving Ground, Maryland, since 1937. In 1940 the Scientific Advisory Committee to the Ballistic Research Laboratory was organized by the War Department. It consists of about a dozen members including physicists like H. Urey, I. I. Rabi, J. W. Beams and W. Hull, and its function is to review, three or four times each year, the functioning of the Laboratory and make suggestions to the War Department. I have served on it since its organization, and it is expected to continue functioning after the war. In my capacity as a consultant to the Laboratory I have also spent a considerable amount of time -- from late 1943 up to early 1944 as much as up to 25 per cent. of my time -- in advising the Laboratory on its work in aerodynamics. Since early 1945 I have been taking part in advising the laboratory on its development program on various high-speed computing devices, and quite particularly in planning a new electronic machine.

From September 1941 to September 1942 I was a consultant and then a member of Division 8, N.D.R.C. The work of this division dealt with high explosives. My work was mainly in the theory of detonation and the theory of various special high-explosive arrangements, specifically the so-called shaped charges. In these devices the precise geometrical shape of an explosive charge is used to modify, concentrate, or direct, the physical effects of detonation.

From September 1942 until July 1943 I worked for the United States Navy Bureau of Ordnance, Research and Development Division, Section for Mine Warfare, on problems of "operational research", i.e. physical, statistical, and more directly military investigations of the use of the weapons under the jurisdiction of this section, and of counter-measures against them. In connection with this work I spent January-July 1943 in England, and the last part of 1943 in Washington.

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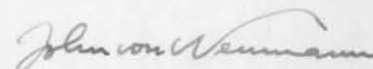
October 11, 1945

Since the fall of 1943 I continued my connection with the Army Ordnance Department as well as the Navy Bureau of Ordnance as a consultant, and spent varying fractions of my time (for a few months, all of it) on their problems in aerodynamics and the theory and application of high explosives.

Since early 1944 I have directed a project of the Applied Mathematics Panel at the Institute for Advanced Study. The object of this project was to carry out calculations on various aerodynamical questions of military importance, and also to develop new computing methods which are likely to be useful in this field. In August 1945 this project was taken over by the United States Navy Bureau of Ordnance and somewhat expanded. Its objective now is to develop new computing methods which are particularly suited to very-high-speed computing devices that will become available in the near future.

Since late 1944 I have been a member of Division 2, N.D.R.C. This Division is primarily interested in studying the effects of explosive blast and of projectile impact on various structures. It has also taken over much of the aerodynamical and high-explosive work of Division 8 with which I was previously connected. I had already previously advised Division 2 on aerodynamical work, namely in connection with the interaction and reflection of blast waves. The results obtained in this manner are of purely scientific interest as well, and I expect to continue working on them now after the war. There seems to be a good chance that the post-war scientific agency of the Government will continue this work in Princeton. The conclusions reached in the course of this work led to direct military applications in determining the conditions under which large and extremely large bombs have to be detonated; the subject is still too highly classified to be discussed here.

Since September 1943 I have been a consultant of the Manhattan District, United States Engineers, specifically on their project at the laboratory at Los Alamos, new Mexico. The work at Los Alamos was and is devoted to the properly military and explosive aspects of nuclear fission. My work at Los Alamos was of a triple character: theoretical, in certain phases engineering, and operational research. It is still highly classified and was entirely deleted from the Smyth report, so that I cannot discuss it here. During this period I spent up to 30 per cent. of my time at Los Alamos.



JvN:GB

John von Neumann