

MEMORANDUM

To: M C. Morgan, Jr.

From: E. S. Gorman

Date: November 30, 1959

In connection with the von Neumann publication project, Professor G. Hunt has written two reviews on unpublished manuscripts by von Neumann entitled, "Real Analytic Functions and Elliptic Operators," and "Part I. Comparison of Cells."

Professor Taub requests that a check for \$100.00 be sent to him at the following address:

Professor G. Hunt
Department of Mathematics
Princeton University
Princeton, New Jersey

Thank you very much

cc: Dr. Oppenheimer ✓

MEMORANDUM

To: M. C. Morgan, Jr.

From: E. S. Gorman

Date: November 23, 1959

In connection with the von Neumann publication project, Professor Mackey has written a review on an unpublished manuscript by von Neumann entitled, "Representation of Certain Linear Groups by Unitary Operators in Hilbert Space."

Professor Taub requests that a check for \$100.00 be sent to him at the following address:

Professor G. W. Mackey
Department of Mathematics
Harvard University
Cambridge 39, Mass.

Thank you very much.

cc: Dr. Oppenheimer ✓

MEMORANDUM

To: M. C. Morgan, Jr.

From: E. S. Gorman

Date: November 13, 1959

In connection with the von Neumann publication project, Professor Kuhn has written two reviews on unpublished manuscripts by von Neumann entitled, "A Numerical Method for Determination of the Value and the Best Strategies of a Zero-Sum Two-Person Game with Large Numbers of Strategies," and "Discussion of a Mass Problem."

Professor Taub requests that a check for \$200.00 be sent to him at the following address:

Professor H. W. Kuhn
5 Dickinson Hall
Princeton University
Princeton, New Jersey

Thank you very much.

cc: Dr. Oppenheimer ✓

TRIP REPORT

November 7-10, 1959

The period November 8-10 inclusive was spent at the Institute for Advanced Study working on the von Neumann manuscripts. During this time I did the following:

1. Prepared Volumes I, II and III for transmission to Pergamon Press and wrote a letter of transmittal for each volume.

2. Discussed with Tucker and Kuhn, Hunt, Morgenstern and Mackey the status of their reviews. Each reported that his reviews would be forthcoming in less than a week.

3. I discussed with Dean Rees and Professor Montgomery the question of waiver of copyright by the American Mathematical Society. Dean Rees seemed to agree that the Society should waive its copyright.

A. H. Taub

November 13, 1959

THE SCIENTIFIC FILES OF JOHN VON NEUMANN

Report on Contract Nonr 1358(06)

November 1959

1. The funds of the subject contract have been used to support work on the scientific material in the files left by John von Neumann. This material is quite varied in nature, ranging from rough notes to almost completed, to completed unpublished manuscripts.

2. Experts in the subject matter of the various manuscripts were asked to review them with a view toward their publication in their entirety. If they were deemed unsuitable for such publication, they were to be judged as to their suitability for having a short review published. A review consists of a description of the manuscript given in sufficient detail so that a reader could determine whether he was interested enough to take steps to see the full manuscript, which is deposited in the library of the Institute for Advanced Study. The publication of the reviews would enable the scientific public at large to benefit from the ideas propounded by, and the techniques used by von Neumann in papers he did not finish or publish.

3. The manuscripts which were reviewed and material related to manuscripts which are to be published for the first time in the collected works have been gathered into File A. Attachment A lists the items in this file and contains a description of each item in the file. The description consists either of a copy of the review of the manuscript, if one has been written, or a short listing of the contents of the folder containing the item in question.

4. It should be pointed out that before funds from the subject contract were made available, various mathematicians devoted quite a bit of time to studying the von Neumann files. One result of this work has been the publication of a posthumous paper by von Neumann:

Non-isomorphism of Certain Continuous Rings (with an introduction by I. Kaplansky). *Ann. Math.* 67, No. 3 (1958), pp. 485-496.

5. Two papers in which von Neumann was a co-author have appeared since his death. These are:

The Jacobi Method for Real Symmetric Matrices (with H. H. Goldstine and F. J. Murray). *J. Assoc. for Computing Machinery* 6, No. 1 (1959), pp. 59-96.

A Study of a Numerical Solution to a Two-Dimensional Hydrodynamical Problem (with A. Blair, N. Metropolis, A. H. Taub and M. Tsingou). MTAC (in press).

6. The files contained many manuscripts related to lecture courses at Princeton University, The Institute for Advanced Study and to lectures given before the American Mathematical Society. Some of these lectures have been published in mimeograph form. The lecture notes have been gathered into File B. Attachment B lists the lecture notes and material related to them in File B.

7. A number of unpublishable, partially completed manuscripts were found and gathered into File C. These are listed and described in Attachment C.

8. Attachment D contains a listing of rough notes not in manuscript form, written by von Neumann on various scientific subjects. The notes themselves are in a file called File D.

9. Attachment E consists of a bibliography of books, papers and reports written by J. von Neumann. Government reports which are still classified are omitted from this bibliography.

A. H. Taub
Principal Investigator

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS

November 10, 1959

Dear Dr. Oppenheimer:

Enclosed you will find copies of correspondence between Dr. Stakgold of O.N.R. and myself. My letter to him is a status report on the work on the von Neumann files. This material is being sent to you for your information.

Sincerely yours,



A. H. Taub

AHT:esg
Enclosures

THE INSTITUTE FOR ADVANCED STUDY

PRINCETON, NEW JERSEY

November 10, 1959

Dr. Ivar Stakgold, Head
Mathematics Branch
Office of Naval Research
Department of the Navy
Washington 25, D. C.

Ref: ONR:432:IS:lgb, NR 043-201

Dear Dr. Stakgold:

This is in response to your request of October 30, 1959 for material related to Contract NR 043-201, the funds of which were used to support work on the scientific material in the late John von Neumann's files.

The final report on this contract is being prepared. It is to consist of a very short description of the work done and five attachments. Two copies of the report, minus the attachments, are included herewith. The completion of the attachments awaits the receipt of some reviews. I have been assured by the reviewers involved that they will complete their reviews soon. Eighteen reviews will have been prepared under the contract.

It is planned to publish these reviews in the collected works of John von Neumann and to deposit the manuscripts reviewed in the library of the Institute for Advanced Study.

Progress is being made in regard to the publication of the von Neumann collected works, a project related to but distinct from the one being reported on herein. Three of the six volumes of the collected works are ready for the printer. It is expected that the remaining volumes will be ready before the first of the year.

I hope that this letter and its enclosure provides the information you requested.

Sincerely yours,

A. H. Taub

AHT:esg

Enclosure

cc: Dr. Oppenheimer ✓

TRIP REPORT - A. H. Taub

10:00 P. M. October 16 to 11:00 P. M. October 18, 1959

1. This period was spent in traveling and in consulting with Mrs. C. Eckart in La Jolla and with Dean H. F. Bohnenblust in Pasadena.
2. Mrs. Eckart and I discussed the progress made by Pergamon Press in obtaining copyright waivers. In particular we discussed copies of letters from Hermann and Co. (Paris) and from the Technology Review (MIT) to Pergamon Press.

It was decided that I would write to Maxwell suggesting that he not accede to Hermann's request for 50,000 fr. but say that the paper involved would be omitted from the collected works with the statement that it was being omitted because the publisher would not cooperate. It was our thought that Hermann would be sensitive to blackmail of this type.

Mrs. Eckart agreed to write to me, giving permission to have the article which appeared in the Technology Review appear in the collected works. A copy of this letter will be sent to the editor of Technology Review.

3. Mrs. Eckart gave me copies of two memoranda written by von Neumann (one written to Aydelote and one written to Veblen). These will be considered for inclusion in the collected works.
4. Mrs. Eckart and I wrote a short piece which could be used for promotional purposes. A copy of this is attached.
5. I am to communicate with Maxwell and set up a schedule for sending copy to Pergamon Press and for working with them on production problems concerning the collected works.

We selected a photograph of von Neumann to be used as a frontispiece of the collected works.

6. I left La Jolla at 3:00 P. M. Sunday and drove to Pasadena where I met Dean Bohnenblust, who is a trustee of the American Mathematical Society. I discussed the copyright problem concerning the two papers by von Neumann and Goldstine on the inverting of matrices. I think I persuaded him that if in return for a waiver of copyright Maxwell set a special price for the collected works for the members of the Math Society the trustees were practically duty-bound to accept an arrangement of this sort. He was much less firm in opposition to waiving the copyright than he had been.

- 5b. I am to write Grad that there are no copies available to the turbulence notes for distribution to A. Fernstein.

John vonNeumann

John vonNeumann, one of the most brilliant scientists of his time, died in 1957 at the age of 53, while he was one of the five commissioners of the United States Atomic Energy Commission. He was the first foreign born citizen to hold this high government post.

He was born in Budapest, Hungary in 1903. His early training was in mathematics, a subject he studied at the University of Berlin, the Swiss Federal Institute of Technology (Zurich) and the University of Budapest. His formal degrees were, Chemical Engineer (S.F.I.T., Zurich) and Ph.D. in Mathematics (Budapest). He taught at the University of Berlin, the University of Hamburg and Princeton University. From 1933 until his death he was Professor of Mathematics at the Institute for Advanced Study, Princeton, New Jersey.

Early in 1940 he began to work intensively as a member of many governmental committees and as a consultant to a multitude of governmental and other laboratories. He continued these services as long as his health and his duties as commissioner permitted. John vonNeumann was honored during his lifetime with a large number of awards and public acknowledgements by both the official and the academic world. In 1956 he received the Fermi Prize and the Freedom Medal, the highest civilian award given in the United States.

The six volumes of the collected works contain a reprinting of his published papers, some hitherto unpublished work, governmental reports recently released, and reviews of unpublished material, not here included, written by various experts.

This collection shows the wide range of his outstanding contributions. Among the disciplines he dealt with are the following: logic, pure mathematics, theoretical physics, the theory of automata, the design of computers, numerical analysis, the theory of games, economics, astrophysics, hydrodynamics, and meteorology.

Publ.

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS

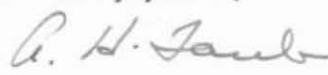
September 22, 1959

Dear Dr. Oppenheimer:

Enclosed please find a statement of the time I have spent working on the von Neumann papers during the period September 21-22, 1959.

I am attaching herewith a copy of my trip report, describing the work I have done during this period.

Sincerely yours,



A. H. Taub

AHT:esg
Dr. R. Oppenheimer
Institute for Advanced Study

A. H. Taub - TRIP REPORT

September 20-22, 1959

The period from 8:00 a.m. September 20 to 4:30 p.m. September 22 was spent enroute to, and at the Institute for Advanced Study to work on the von Neumann files. During this period I worked on the report for O.N.R. Contract 1356(06). I also engaged in correspondence with various persons reviewing manuscripts. Further, I discussed various questions with Mrs. Gorman.

A. H. Taub

A. H. TAUB

September 22, 1959

For time spent preparing von Neumann papers for publication:

September 21, 1959

1 day

A. H. Taub
A. H. Taub

esg

September 22, 1959

UNIVERSITY OF ILLINOIS
DIGITAL COMPUTER LABORATORY
URBANA, ILLINOIS

September 17, 1959

Captain I. R. Maxwell
Pergamon Press, Ltd.
Pergamon House
4, Fitzroy Square
London, W.1, England

Dear Captain Maxwell:

I was very pleased indeed to get your letter of September 11 and to learn that you are in full agreement with the minutes of the meeting of September 8. I am now trying to arrange a time for the October meeting and I am going to propose to Mrs. Eckart that this meeting be held on Saturday, October 17. This date is a little later than the one we had previously set and I hope it will be acceptable to her. I hope further that you will indeed find it possible to attend. I would welcome suggestions from you as to the most efficient way of transmitting the manuscript for these books to you.

With best regards,

Sincerely yours,

A. H. Taub

AHT/hc

cc: Mrs. C. Eckart
Dr. J. R. Oppenheimer
Mr. Edmund Dews

*Betty Gorman told me
that Dr. Taub does
not count on your
presence. He does not
expect Mrs. Eckart to
attend.*

A. H. Taub - TRIP REPORT

June 10-14, 1959

1. This period was spent enroute to and in London, England. I left Princeton, N. J. at 1:30 PM, June 10 and arrived at my hotel in London at noon on June 11.
2. The purpose of stopping in London while enroute to the International Conference on Information Processing was to consult with Captain Maxwell and others of Pergamon Press on matters related to the preparation for publication of the von Neumann collected works.
3. I met with Captain Maxwell and Mr. Buckley on Friday, June 12. At this meeting I turned over to Pergamon Press items 70, 75 and 90a of the list of published papers of von Neumann. Item 90a is a translation by Morgenstern of item 72 entitled, "Uber ein okonomisches Gleichungssystem und eine Verallgemeinerung des Brouwerschen Fixpunktsatzes." It seemed best not to publish both the original paper and the translation. Since the translation was an "authorized" one, it was chosen for publication. A receipt for the items turned over was obtained and has been placed in the files.
4. Minutes of the meeting held with Captain Maxwell and Mr. Buckley are attached. Item 2 of these minutes is worthy of comment. This method of production should lead to an accurate and cheaper version of the collected works. It will be possible to correct misprints and the appearance of the volumes need not suffer. Pergamon Press promises to reset those papers printed in type faces widely different from the majority of the papers. They also promise to use different magnifications of the photographs of pages of text when necessary to achieve a uniform size of printed page in the final book. I am confident that it is to the interest of Pergamon Press to have a handsome edition of these works and that they will do their utmost to achieve this.
5. Although there is no minute concerning the discussion of the final price to be charged for the collected works, this was discussed. Included in the discussion was the following possibility: Two different prices be established--(1) for individuals who are members of various mathematical societies and (2) for institutions and other individuals. The price for the second category of buyer would probably be about 3cents a page. That is, about \$15.00 for a volume of 500 pages. The whole works would come to about \$90.00 or \$100.00, if my present estimate of its size were correct. I would hope that it would be possible to make a reduction of 50 percent for individuals who are members of societies. This may be achieved by having the society co-sponsor the work and take over some of the distribution. I

- 2 -

expect Maxwell to look into this matter. It should be discussed in September if and when there is a meeting between Mrs. Eckart, Maxwell, Oppenheimer and Taub.

6. I received a specimen page of the collected works as they would appear if hand set. This page is attached. The interest in this attachment is not great in view of Minute 2 of the attached minutes.

7. The printers' strike presently going on in England may interfere seriously with the activities of all English publishers, and in particular with those of Pergamon Press.

June 30, 1959



A. H. TAUB

The Collected Works of J. von Neumann.

Discussion between Prof. A.H. Taub, Captain Maxwell and E.J. Buckley on matters concerning this publication, at Fitzroy Square, on Friday 12th June, 1959.

1. To ensure maximum accuracy and to give some useful publicity to the project, Prof. Taub will cause to be inserted in the Notices of the American Mathematical Society a brief statement about the publication, asking for corrections to J. von Neumann's published works to be notified to him. He will also request other mathematical societies to publish this notice.
2. In continuance of the policy of ensuring maximum accuracy, to cut down the heavy burden of proof-reading for such a work, to assist in reducing production costs, and to speed up production, the publishers shall reproduce by photo-offset all of the published contributions by J. von Neumann as will lend themselves to this treatment, after carrying out such corrections as the Editor notifies.
3. Method of transmission of material from the Editor: Professor Taub will send direct to E.J. Buckley by registered post.
4. In the interests of reducing production costs and speeding up publication it would be advisable to provide a second set of reprints of published papers, as complete as possible, to Pergamon Press.
5. Pergamon Press will apply to the American Society for Mathematics for copyright permission, in respect of papers published by them, later this year in the normal way.
6. Captain Maxwell will write to the President of AMS, E.J. McShane, University of Virginia, Charlottesville, informing him formally of the project and giving AMS an opportunity to sponsor the project and to take on distribution in the U.S.A. A copy of the specimen page and/or dummy copy (as referred to in para.7) should accompany the letter.
7. Pergamon Press will prepare a specimen sheet of 8 or 16 pages, produced by photo-offset and containing corrections made to the original, to show quality and general appearance, including proposed binding. From the specimen printing plate so prepared Pergamon Press will make up dummy copies of a volume of the work for Professor Taub, Mrs. Ekhardt, Dr. Oppenheimer and for office use.
8. It was agreed to arrange a meeting between Captain Maxwell, Prof. Taub, Mrs. Ekhardt and Dr. Oppenheimer to discuss any problems, at Princeton on Thursday 10th September, 1959.

THE INSTITUTE FOR ADVANCED STUDY

PRINCETON, NEW JERSEY

June 30, 1959

Captain I. R. Maxwell
Pergamon Press Limited
4, Fitzroy Square
London, W.1, England

Dear Captain Maxwell:

At our June 12 meeting at Fitzroy Square I promised to have inserted in the notices of the American Mathematical Society a brief statement about the forthcoming edition of the collected works of the late John von Neumann. I have prepared such a statement and a copy of this is enclosed for your comment. If I do not hear from you concerning this in about three weeks, I shall assume that you approve of this statement and send it on to the Editor of the Notices of the American Mathematical Society, and to the editors of a number of other journals.

It was extremely pleasant seeing you both in London and in Paris. Best regards.

Sincerely,

A. H. Taub

AHT:esg
cc: K. vN. Eckart
J. R. Oppenheimer ✓

An edition of the collected works of the late John von Neumann is in preparation. These works will include all of his published papers, as well as government reports written by him, and reviews of some of his unpublished manuscripts. The collected works are being edited by A. H. Taub of the University of Illinois, and Pergamon Press will publish them.

There will be an opportunity to correct misprints appearing in the published papers and the editor would be most grateful if any person knowing of any misprints would call these to his attention by writing to: A. H. Taub, Digital Computer Laboratory, University of Illinois, Urbana, Illinois.



PERGAMON PRESS LIMITED

*Pergamon House,
4, Fitzroy Square,
London, W.1.*

Telegraphic Address: PERGAPRESS.
Telephone: EUSTON 4455.

MANAGING DIRECTORS ROOM

2nd July, 1959

Dr. R. Oppenheimer,
The Institute for Advanced Study,
Office of the Director,
PRINCETON,
New Jersey,
U.S.A.

AIR MAIL

Dear Dr. Oppenheimer,

Thank you very much for your nice letter of 24 June and I am so glad that it will be convenient for us to meet in your office at Princeton on September 10th. I do hope, however, that you will be able to be there as your presence will be most valuable.

Yours sincerely,

I. R. Maxwell
(dictated by Captain Maxwell but
typed in his absence)

DIRECTORS

Cept. I. R. MAXWELL, M.C. (CHAIRMAN & MANAGING) · C. T. CLARK · E. J. BUCKLEY

24 June 1959

Dear Captain Maxwell:

Thank you for your note of June 18th, and the copy of your letter to Mrs. Eckart. September 10th seems all right. There is a remote chance that I shall have to leave for Europe before then, but I expect not. In any case, you would be welcome to meet here.

Very sincerely,

Robert Oppenheimer

Captain I. R. Maxwell
Pergamon Press Limited
Pergamon House
4, Fitzroy Square
London, W. 1.
England



PERGAMON PRESS LIMITED

*Pergamon House,
4, Fitzroy Square,
London, W.1.*

Telegraphic Address: PERGAPRESS.
Telephone: EUSTON 4455.

MANAGING DIRECTORS ROOM

Dr. J.R.Oppenheimer,
Institute for Advanced Studies,
Princeton,
New Jersey,
U.S.A.

18th June 1959

Dear Dr. Oppenheimer,

I enclose herewith copy of my letter to Mrs. Eckart, paragraph 2 of which I would appreciate if you would read and let me know whether it would be convenient to you for us to meet in your office on the stipulated date and time. If this would not inconvenience you too much it would be most helpful if we could arrange matters in this way.

Thank you in advance for your kind help in this matter.

Yours sincerely,

I.R.Maxwell

P.S. I thought you would be interested to see a specimen page of the Volume.

DIRECTORS

Capt. I. R. MAXWELL, M.C. (CHAIRMAN & MANAGING) · C. T. CLARK · E. J. BUCKLEY

Mrs. Klari Eckart,
347 Vista de la Playa,
La Jolla,
California.

12th June 1959

Dear Klari,

Abe is just visiting with me and we have gone into the possibility of setting up the meeting between the three of us.

The second half of August is unfortunately impossible but Thursday, 10th September is a date which would be very satisfactory for me and Abe to meet in Princeton and I understand that this may also be a satisfactory date for Dr. Oppenheimer, to whom I am sending a copy of this letter. Unless I hear to the contrary from either you or Dr. Oppenheimer with an alternative date, then, Dr. Oppenheimer being agreeable, I propose that we meet at 11 a.m. at his office on the 10th September. I hope this proposal is satisfactory to you. *day later*

It was good of you to talk to Mr. McCone, the Chairman of the Atomic Energy Commission, about the declassification problem. I hope that he will be energetic in lending assistance to Abe in clearing this matter up, now that Abe is getting to the final stage of manuscript preparation.

Thank you for giving me Mrs. Gamow's address. I can indeed use her as a translator from Russian into English, and I am writing to her to ask her what work she would like to undertake and in what quantity. I appreciate very much your drawing her name to my attention, as we are very short of competent translators.

Mrs. Maxwell and I have just returned from a visit to Budapest, Warsaw and Bratislava. I must say Hungary is suffering terribly, though ex-capitalists are no longer being persecuted and are being given quite responsible posts.

...

The new baby (a boy) has arrived. He is an absolute
giant!

With best regards to Carl,

Yours sincerely,

I.R. Maxwell

c.c.Dr. Oppenheimer

Records of the Office of the Director / Faculty Files / Box 35 / von Neumann, John / Publication of C
From the Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ

With the Compliments of
Captain J. R. Maxwell, M.C.

Publisher at Pergamon Press

LONDON NEW YORK PARIS LOS ANGELES

4 & 5 Fitzroy Square, London W.1

Euston 4455

DWNS/DP/530.613

6th October, 1959.

Professor A.H. Taub,
Digital Computer Laboratory,
University of Illinois,
Urbana,
Illinois,
U.S.A.

Dear Professor Taub,

Minutes of Meeting Concerning the
Von Neumann Collected Works.

As Captain Maxwell is at present contesting the Parliamentary Seat of North Buckinghamshire in the forthcoming General Election, he is not in the office, and your letter of 8th September has been passed to us. We shall, naturally, place it before Captain Maxwell as soon as he returns to the office.

Fergamon Press has been working on the question of copyright clearance and has obtained some permissions. There is, however, a little difficulty with one or two of the publishers. You will have seen from our previous letter what has been happening. We realise that a few of the publishers are acting in ignorance of the fact that the Von Neumann estate has already granted permission.

We will ensure that dummy copies of the volume will be sent to Mrs. Eckart and Dr. Oppenheimer and yourself as soon as possible.

Yours sincerely,

Copy sent to:
Mrs. C. Eckart,
Dr. Oppenheimer
Mr. Dewe

Dr. David W.N. Stewart
Editor

11th September, 1959.

Professor A. H. Taub,
Digital Computer Laboratory,
University of Illinois,
URBANA, Illinois,
U.S.A.

Dear Professor Taub,

Thank you for your letter of September 8th.

I was very disappointed that Mr. Macmillan by calling the General Election for October 8th, made it impossible for me to be present at the Princeton meeting where I had been so much looking forward to seeing you, Mrs. Eckart and Dr. Oppenheimer.

I am in full agreement with the Minutes in particular with the point raised in item four.

If the meeting in October is after the General Election, I shall, of course, be present. Be sure that I intend and am able to continue to give my full personal attention to the publication of the collective works of Johnny von Neumann.

With best regards.

Yours sincerely,

I. R. Maxwell

c.c. Mrs. C. Eckart
Dr. Oppenheimer ✓
Mr. Dows

11th September, 1959.

Professor A. H. Taub,
Digital Computer Laboratory,
University of Illinois,
URBANA, Illinois,
U.S.A.

Dear Professor Taub,

Thank you for your letter of September 8th.

I was very disappointed that Mr. Macmillan by calling the General Election for October 8th, made it impossible for me to be present at the Princeton meeting where I had been so much looking forward to seeing you, Mrs. Eckart and Dr. Oppenheimer.

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With best regards.

Yours sincerely,

I. R. Maxwell

c.c. Mrs. C. Eckart
Dr. Oppenheimer ✓
Mr. Dews

THE INSTITUTE FOR ADVANCED STUDY

PRINCETON, NEW JERSEY

September 8, 1959

Captain I. R. Maxwell
Pergamon Press Limited
4, Fitzroy Square
London, W.1, England

Dear Captain Maxwell:

We were all very disappointed to hear that you would not be able to meet in Princeton and discuss the von Neumann collected works. Mrs. Eckart, Dr. Oppenheimer and myself met and discussed a number of topics connected with these works. The minutes of our meeting are enclosed. I hope you will pay special attention to points 4 and 10.

I had planned to give you draft copies of the table of contents and the preface at the meeting in Princeton. I shall work on these further and hope to send them to you when I hear your response to the minutes of our meeting.

In view of your message which arrived this morning announcing your new plans, we wonder whether these plans are consistent with your giving the great personal attention that you have given to the publication of the von Neumann collected works. Will you, indeed, be able to continue this?

I am looking forward very much to hearing from you.

Sincerely yours,

A. H. Taub
Digital Computer Laboratory
University of Illinois
Urbana, Illinois

AHT:esg
Enclosure
cc: Mr. E. Dews
Mrs. C. Eckart
Dr. R. Oppenheimer ✓

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS


September 3, 1959

Dear Dr. Oppenheimer:

I am enclosing herewith drafts of the proposed Preface and Table of Contents of Volumes I through VI. I would very much appreciate any comments which you may have concerning these. I propose to turn these over to Captain Maxwell at our meeting with him on September 11.

Thank you very much.

Sincerely yours,


A. H. Taub

AHT:esg

Dr. Robert Oppenheimer
Institute for Advanced Study

Minutes of Meeting Concerning the von Neumann Collected Works

September 8, 1959

Present: Mrs. Carl Eckart, Dr. R. Oppenheimer and A. H. Taub

1. Status of the Manuscript

A preface has been written, the table of contents of the six volumes has been settled and all the contents but a few reviews have been collected. The preface contains acknowledgements. There will be no honorary editors. A complete bibliography is being prepared which will serve as an index. Complete table of contents and bibliography will appear in each volume.

2. The Method of Production

(a) It is agreed that use of a photographic method of production is to be used on material already printed by letter press. However, extreme care is to be taken to produce a handsome set of volumes with uniformity of margins and appearance of the pages.

(b) Errata are to be given at the beginning of each paper and no corrections in the text are to be made of material reproduced photographically.

(c) Galley proof of a review is to be sent to each reviewer.

3. Copyright Problem.

Pergamon Press is to proceed immediately with obtaining permission to reprint copyright material from the copyright holders.

4. Price

It is felt that in view of waiver of royalties on the part of the von Neumann estate and on the part of the editor, and for other reasons, the price of the set should be kept to a minimum. The price cannot be expected to be less than one cent per page, nor should it go over two cents per page. It is acceptable to all concerned to have a lower price apply to individual members of various scientific societies, and a greater one apply to institutional buyers.

5. Dummy Copies

Pergamon Press will send dummy copies to Mrs. Eckart, Dr. Oppenheimer and A. H. Taub for comment as soon as possible.

6. Additional Free Copies

In addition to the free copies provided for in the contract between the von Neumann estate and Pergamon Press, it would be advisable to provide free copies to the Institute for Advanced Study (1 set) and O. N. R. (a number of sets).

7. Time Scale

It is desirable to have the collected works appear as soon as possible. The volumes should appear within one year from the date the manuscript is delivered to Pergamon Press. (The estimated date for this delivery is now October 1, 1959.)

8. Individual Volumes

It is important that the sale of individual volumes will be promoted. The price of these to be one-sixth the price of the set.

9. Promotional Material

As noted in the agreement between Pergamon Press and the von Neumann estate, the wording of promotional material used in announcing these volumes will be subject to approval by Mrs. Eckart and A. H. Taub. They will provide information to Pergamon Press for this material if necessary.

10. There will be a meeting between Mrs. Eckart and A. H. Taub early in October. It is important that Captain Maxwell's comments on these minutes be received before the first of October.

MEMORANDUM

To: M. C. Morgan, Jr.

From: A. H. Taub

Date: September 21, 1959

In connection with the von Neumann publication project, Professor Garrett Birkhoff has written a review on an unpublished manuscript by von Neumann entitled, "Lattice Abelian Groups." Would you please have a check for \$100.00 sent to him:

Professor Garrett Birkhoff
Department of Mathematics
Harvard University
Cambridge 38, Massachusetts

Thank you very much.

cc: Dr. Oppenheimer ✓

MEMORANDUM

To: M. C. Morgan, Jr.

From: A. H. Taub

Date: September 9, 1959

In connection with the von Neumann publication project, Dr. H. H. Goldstine has written a review on an unpublished manuscript by von Neumann entitled, "Taylor Instability Problem." Would you please have a check for \$100.00 sent to him:

Dr. H. H. Goldstine
I.B.M. Research Laboratory
P.O. Box 218
Yorktown Heights, New York

Thank you very much.

cc: Dr. Oppenheimer

THE INSTITUTE FOR ADVANCED STUDY

PRINCETON, NEW JERSEY

September 4, 1959

Mr. E. Dews
Pergamon Press, Inc.
122 E. 55th Street
New York 22, New York

Dear Mr. Dews:

I have consulted Mrs. Eckart and Dr. Oppenheimer and find that they are agreeable to having our meeting with Captain Maxwell held on the 11th, instead of the 10th. I am very grateful to you and to Captain Maxwell and the others for arranging things so that I could make my appointment in Urbana.

I am looking forward to seeing Captain Maxwell at 11:00 a. m. on September 11th.

Sincerely yours,

A. H. Taub

AHT:esg
cc: Mrs. C. Eckart
Dr. R. Oppenheimer ✓

THE INSTITUTE FOR ADVANCED STUDY

PRINCETON, NEW JERSEY

September 3, 1959

To the Trustees of the American Mathematical Society

Dear Colleagues:

I have just been talking with Mrs. Eckart (formerly Mrs. von Neumann) who informs me that the von Neumann estate will receive no royalties from the publication of von Neumann's collected works. It is her impression and mine that the Pergamon Press, which will be the publisher, is not intending to make a profit. Captain Maxwell, of Pergamon Press, will be here in a week or so and I will forward any further information I get at that time. My own opinion is that the Society should make available the von Neumann articles from its journals without charge.

Sincerely yours,

Deane Montgomery

DM:MMH

cc: J. H. Curtiss
R. Oppenheimer ✓
A. H. Taub

AMERICAN MATHEMATICAL SOCIETY

September 9, 1959

A. E. Meder, Jr.
Treasurer

Rutgers University
New Brunswick, New Jersey

Dr. Deane Montgomery
The Institute for Advanced Study
Princeton, New Jersey

Dear Deane:

Thank you for your letter of September 3 addressed to the Trustees of the American Mathematical Society.

The question of making available without charge the von Neumann articles copyrighted by the Society seems to me to hinge on the accuracy of your impression that the Pergamon Press does not intend to make a profit on the von Neumann Collected Works. Whether or not Pergamon Press shows a profit depends essentially on their methods of cost accounting. In particular, how much of the overhead of the Press operations will be allocated to the von Neumann project?

I do not mean to be unduly suspicious, but it seems to me that it is most important that we have our terms well defined.

Perhaps I can make my fears clearest by citing an analogy. We used to have a "non-profit" junior college in this State. All of the Trustees were relatives of the President, and the President's salary was annually fixed at a figure neatly estimated to be the difference between other expenditures and total income. The result was that the President of this "non-profit" institution received a salary higher, I think, than that paid to the President of any other institution in the State, including Princeton and the Institutes.

Sincerely,

(signed)

Albert E. Meder, Jr.

Copies to:

K. Eckart

R. Oppenheimer ✓

A.H. Taub

M. C. Morgan, Jr.

August 10, 1959

A. H. Taub

Reviews for von Neumann publication
project

In connection with the von Neumann publication project, Professor I. Halperin has written two reviews on two unpublished manuscripts by von Neumann:

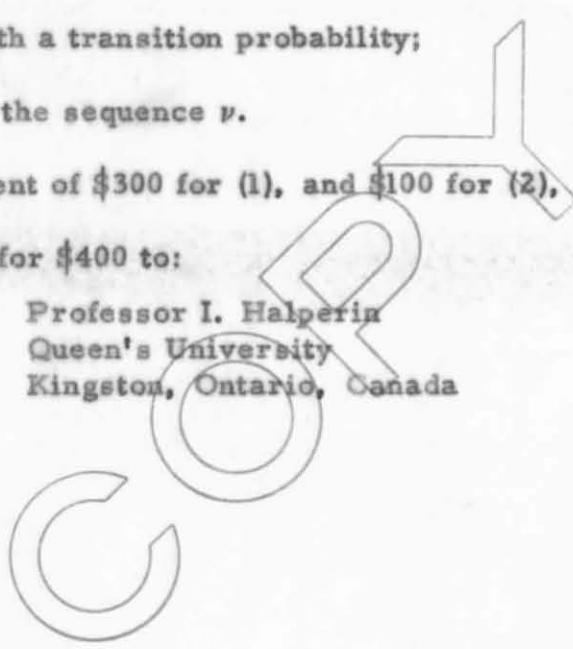
- (1) Continuous geometries with a transition probability;
- (2) Independence of F_∞ from the sequence ν .

I should like to request payment of \$300 for (1), and \$100 for (2), or a total of \$400.

Will you please send a check for \$400 to:

Professor I. Halperin
Queen's University
Kingston, Ontario, Canada

cc: Dr. Oppenheimer ✓



*von Neumann papers
ONR contract*

A. H. Taub - TRIP REPORT

August 12-14, 1959

1. I spent the period August 12 through August 14, 1959 en route to and at the Los Alamos Scientific Laboratory.
2. While at this laboratory I consulted with Dr. S. Ulam and with Mr. Henry Hayman. I discussed with Ulam the tentative organization I had made of the von Neumann papers and received one suggestion as to a rearrangement of the order I had placed the papers entitled, "The Uniqueness of Haar's Measure," and "The Logic of Quantum Mechanics." The rest of the organization seemed good to him.
3. Ulam thought that it would be a good idea to include the Los Alamos report (LAMS-551) by von Neumann and Richtmyer which gives the description of the Monte Carlo method. He urged that the report be complete, that is, the references to his contributions be included.
4. I showed Ulam the correspondence with officers of the American Mathematical Society regarding the copyright problems arising in connection with the publication of the collected works.
5. Through the good offices of Mr. Hayman I received copies of the following documents:
 - AECU-2979, Taylor Instability of Incompressible Liquids, by Enrico Fermi and John von Neumann.
 - LA-657, On the Numerical Solution of Partial Differential Equations of Parabolic Type.
 - AM-863, Memo from J. von Neumann to J. R. Oppenheimer.
 - AM-570, Papers on the mechanism of detonation.
 - LAMS-551, Statistical Methods in Neutron Diffusion.
 - LA-1020, Chapter II (an earlier version of Chapter II of LA-2000, Blast Wave).
5. I pointed out to Mr. Hayman that Chapter X of LA-1021, Blast Wave, could in large part be declassified. I gave him a list of sections of this chapter that in my opinion could be declassified and would provide material for the collected works.

A. H. Taub

A. H. TAUB

August 17, 1959

MEMORANDUM

To: M. C. Morgan, Jr.

From: E. S. Gorman

Date: May 18, 1959

In connection with the von Neumann publication project, Professor I. Kaplansky has written a review on an unpublished manuscript by von Neumann entitled, "Abstract characterizations of factors of type II." Professor A. H. Taub has requested that a check for \$100.00 for this review be sent to:

Professor I. Kaplansky
Department of Mathematics
University of Chicago
Chicago, Illinois

Thank you very much.

CC: Dr. Oppenheimer
A. H. Taub

OK
RD

von Neumann Publ
ONR Contract

MEMORANDUM

To: M. C. Morgan

From: A. H. Taub

Date: March 31, 1959

Dr. Oppenheimer has agreed that it is a reasonable charge against the von Neumann collected works project to pay people for writing reviews of various manuscripts in the von Neumann files. Professor Halperin has written such a review on a manuscript entitled, "Measure in Functional Spaces." Could you have a check for \$100.00 sent to Professor I. Halperin at Queen's University, Kingston, Ontario for his work on this review.

Thank you very much.

cc: R. Oppenheimer

COPY

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS

April 2, 1959

Dear Dr. Oppenheimer:

Enclosed please find a statement of the time I have spent working on the von Neumann papers during the period March 30-April 2. This is essentially my bill for my consulting fees.

I am attaching herewith a copy of my trip report, describing the work I have done during this period.

Sincerely yours,



A. H. Taub

AHT:esg
Enclosures

Dr. R. Oppenheimer
Institute for Advanced Study

*2 days
bill sent
to mail*

Trip Report
INSTITUTE FOR ADVANCED STUDY
Princeton, New Jersey

March 30-April 2, 1959

I arrived in Princeton at 7:10 p.m. March 30, and left at 8:44 a.m. April 2. The major portion of the intervening time was spent doing the following:

1. I discussed with Dr. Oppenheimer the payment for reviews of manuscripts found in the von Neumann files.

2. I wrote reviews on the four manuscripts listed below:

"Static solutions of Einstein field equations for perfect fluid with $T^p_p = 0$." (File IIIa, Item no. 2.)

"On relativistic gas-degeneracy and the collapsed configuration of stars." (File IIIa, Item no. 3.)

"The point-source model." (File IIIa, Item no. 8.)

"Consider the point-source-solution assuming a degeneracy of the semi-relativistic type, $p = K\rho^{4/3}$, over the entire star." (File IIIa, Item no. 8)

A. H. Taub
A. H. Taub

esg

April 2, 1959

UNIVERSITY OF ILLINOIS
DIGITAL COMPUTER LABORATORY
URBANA, ILLINOIS

March 20, 1959

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

Dear Dr. Oppenheimer:

ok
Thank you for your note of March 18th. I shall plan to be in Princeton on the evening of March 30th and would hope to see you on the morning of the 31st. I will check with your secretary as to what the best time for you is.

Looking forward to seeing you.

As ever yours,



A. H. Taub

AHT:je

not seen
concep w/ Taub

18 March 1959

Dear Dr. Taub:

It will be easy for me to see you in Princeton on Monday or Tuesday, the 30th or 31st of March, except probably for the late afternoon of one or both days. Wednesday I have to go to New York. Let me know what your plans are. I look forward to seeing you.

Very sincerely,

Robert Oppenheimer

Dr. A. H. Taub
Digital Computer Laboratory
University of Illinois
Urbana, Illinois

UNIVERSITY OF ILLINOIS
DIGITAL COMPUTER LABORATORY
URBANA, ILLINOIS
March 16, 1959

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

Dear Dr. Oppenheimer:

In some of our previous correspondence and discussions we both agreed to the general advisability of paying for consulting services connected with the von Neumann manuscripts. I think I've mentioned to you my plan for disposing of some of the unpublished von Neumann manuscripts. This involves having abstracts of some of the manuscripts made and finding a means of disseminating these abstracts. One possible method of dissemination would be to publish the abstracts in one of the proposed volumes of the von Neumann collected works. Professor Halperin of Queen's University, Kingston, Ontario, has written an abstract on a manuscript entitled "Measure in Functional Spaces". I think he should get some financial compensation for this work. I would very much appreciate an opportunity to discuss with you the procedures to be followed in paying for work of this type. I expect to be in the east and relatively free from late afternoon of Monday, March 30th through Wednesday evening, April 1st. I would be very happy if I could see you sometime during this period. If this turns out to be inconvenient I can try to arrange for another time for discussion of the matters I have mentioned above.

30 + 31 6 nee
1st - 20 Cent Fund
N.Y.

With very best regards,

As ever yours,



A. H. Taub

AHT:je

cc: Mrs. E. Gorman

27 January 1959

Memorandum to Mr. Morgan:

Dr. Oppenheimer has authorized the payment to Dr. A. H. Taub of \$150. to be charged to Office of Naval Research contract Nonr 1358 (06). This is a consulting fee for 3 days, at \$50. a day, for time spent by Dr. Taub this January on preparing von Neumann papers for publication.

Verna Hobson

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS


January 24, 1959

Dear Dr. Oppenheimer:

Enclosed please find a statement of the time I have spent working on the von Neumann papers during the period January 22-24. This is essentially my bill for my consulting fees.

I am attaching herewith a copy of my trip report, describing the work I have done during this period.

Sincerely yours,


A. H. Taub

AHT:esg
Enclosures

Dr. R. Oppenheimer
Institute for Advanced Study

Trip Report

INSTITUTE FOR ADVANCED STUDY
Princeton, New Jersey

January 22-24, 1959

I arrived in Princeton at 9:05 a.m. Thursday, January 21 and left on the afternoon of January 24. The major portion of the intervening time was spent doing the following:

1. Determined that the Applied Mathematics Panel report No. 108.2R was supervised by J. von Neumann but written by V. Bargmann. This disposes of some correspondence found by Mrs. Eckart.
2. Corresponded with I. Halperin, concerning his writing a review of a manuscript of J. von Neumann.
3. Corresponded with Pergamon Press re: releasing material to the printer.
4. Made some arrangements for my stay at the Institute during the summer of 1959.
5. Worked on the von Neumann files.



A. H. Taub

esg

January 24, 1959

For time spent preparing von Neumann papers for publication:

<u>1959</u>	<u>Days</u>
January 22, 23, 24	3

A. H. Taub

esg

January 24, 1959

OK
RD

Trip Report

INSTITUTE FOR ADVANCED STUDY
Princeton, New Jersey

October 7 - 8, 1958

I arrived in Princeton on the evening of October 6, 1958, and spent Tuesday, October 7 and Wednesday, October 8 at the Institute for Advanced Study. During this time I did the following:

1. Consulted with Mrs. C. Eckart about problems relating to the publication of the von Neumann papers.
2. Corresponded with various people asking for recommendations on the disposition of various manuscripts in the von Neumann files.
3. Worked on the files and determined when some typescripts had had been published.
4. Made arrangements to carry on some work in Urbana.

A. H. Taub

esg

October 8, 1958

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS

October 8, 1958

Dear Dr. Oppenheimer:

Enclosed please find a statement of the time I have spent working on the von Neumann papers during the period October 7-8. This is essentially my bill for my consulting fees.

I am attaching herewith a copy of my trip report, describing the work I have done during this period.

Sincerely yours,

A. H. Taub

A. H. Taub

AHT:esg
Enclosures

Dr. R. Oppenheimer
Institute for Advanced Study

*2 days -
bill sent to Mr. Morgan
for payment.*

University of Illinois **DIGITAL COMPUTER LABORATORY**
GRADUATE COLLEGE 168 Engineering Research Laboratory · URBANA, ILLINOIS

September 15, 1958

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

Dear Dr. Oppenheimer:

I am hoping to spend the period from the evening of October 6 to the evening of October 8 at The Institute working on the von Neumann papers. I hope that this time is agreeable to you and your staff.

I have asked Mrs. Gorman to see about work place and housing. I hope also that there will be an opportunity for us to talk a little about the project although at this time I have nothing definite to discuss.

I am looking forward to seeing you again. With best regards,

Sincerely yours,



A. H. Taub

AHT/hc

4/24/58
Records of the Office of the Director / Faculty Files / Box 35 / von Neumann, John / Publication of C
Verna:
From the Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ

These are lists Professor Taub referred to in
his trip report of March 31-April 8, 1958.

Betty

Tentative Lists of Papers for Inclusion in
Publication Project

P = printed
 T = typed
 L = legal-size paper

DESIGN OF COMPUTERS AND THEORY OF AUTOMATA

No. of
Pages

1946	<p><u>Moore School Lecture 8/13/46 on theory and techniques for design of electronic digital computers. Only title (no text) of JvN lecture appears in publication, "Theory and techniques for design of electronic digital computers: vol. IV. Lectures 34-48, given July 8-August 31, 1946. Report No. 48-10. June 30, 1948, 159 pp."</u></p> <p>There is in the files an incomplete text of this lecture taken from tape recording and a letter dtd 11/11/46 from JvN to C.C. Chambers of the Moore School which reads in part: "...In reading the typed text of my talk, as reproduced from the sound recorder, I see that it would still be a great deal of rather detailed work to put it into a publishable shape...Furthermore, Goldstine and I have to write--partly separate and partly together--various reports and at least one mathematical paper on this subject and allied ones... I am very much afraid that I would not in the end be able to keep my promises on the subject of a write-up of my Philadelphia talk, if I made such promises... I am very sorry that we both are unable to comply with your request in this matter..."</p> <p><u>Preliminary discussion of the logical design of an electronic computing instrument. Part I, Vol. I. With A.W. Burks and H.H. Goldstine. Report prepared for U.S. Army Ord. Dept. under Contract W-36-034-ORD-7481 (28 June 1946, 2nd ed. 2 Sept. 1947). No. 92 on bibliog.</u></p>	<p>41T</p> <p>42T</p>
1947	<p><u>Planning and coding of problems for an electronic computing instrument. Part II, Vol. I. With H.H. Goldstine. Report prepared for U.S. Army Ord. Dept. under Contract W-36-034-ORD-7481 (1947). No. 95 on bibliog.</u></p>	<p>69T</p>
1948	<p>----- Part II, Vol. II (1948). No. 96 on bibliog.</p> <p>----- Part II, Vol. III (1948). No. 97 on bibliog.</p>	<p>68T</p> <p>23T</p>
1951	<p><u>The General and Logical Theory of Automata. "Cerebral Mechanisms in Behavior--The Mixon Symposium," Sept. 1948, Pasadena, edited by L.A. Jeffress. John Wiley and Sons, Inc., New York (1951), pp. 1-31. No. 111 on bibliog.</u></p>	<p>31P</p>
?	<p><u>The Future of High-Speed Computing. Proc., Comp. Sem., Dec. 1949, published and copyrighted by IBM (1951), p. 13. No. 107 on bibliog.</u></p>	<p>1P</p>
1954	<p><u>The NORC and Problems in High Speed Computing. Speech at first public showing of IBM Naval Ord. Res. Calculator, Dec. 2, 1954. No. 118 on bibliog.</u></p> <p><u>Entwicklung und Ausnutzung neuerer mathematischer Maschinen. Arbeitsgemeinschaft für Forschung des Landes Nordrhein-westfalen, Heft 45. Düsseldorf, Sept. 15, 1954, pp. 7-27. No. 119 on bibliog.</u></p>	<p>9P</p> <p>21P</p>
1956	<p><u>Probabilistic Logics and the Synthesis of Reliable Organisms from Unreliable Components. "Automata Studies," edited by C.E. Shannon and J. McCarthy, Princeton Univ. Press 1956, pp. 43-98. No. 124 on bibliog.</u></p>	<p>56T</p>

DESIGN OF COMPUTERS AND THEORY OF AUTOMATA
Supplement

		<u>Pages</u>
1952	<u>The Theory of Automata, Chaps. I and II (about 1952).</u>	72T
	Original typescript and photostat of typescript (supposedly revision of above manuscript?) written later, plus 105 figures.	161T 24H
	F.J. Murray: "The major objectives of photostat was to tackle the problem mentioned on p. 29 of <u>General and Logical Theory of Automata</u> . From p. 37 of photostat, one infers that he is discussing the construction of automata in 2 dimensions, and this one ties in with the statement in Chap. I, pp. 7 and 8 of <u>Theory of Automata</u> concerning the construction of automata and space. On p. 49 of photostat, Sec. 10, the first 3 paragraphs indicate his general purpose. Should be read in conjunction with <u>General and Logical Theory of Automata</u> . Photostat is technical discussion behind the general statements of that paper. Consider photostat very valuable <u>if</u> the proof has been completed. Should be very carefully evaluated."	
1953-54	Memoranda pertaining to patent obtained by JvN and assigned to I.B.M. re: "results regarding the use of crystal diodes for 'flip-flop' action, amplification, etc. and generally for universal computing machine componetry."	
(1)	1st Memo dtd 11/17/53 Attached manuscript	3T 95H
	2nd Memo dtd 12/3/53	8H
	3rd " " 1/25/54	5H
	4th " " 2/15/54	
	Attached manuscripts: MS dtd 12/27/53-1/10/54	35H
	" " 2/5/54-2/13/54	30H
	" " 2/13/54	3H
	" " 2/14/54	10H
	" " 2/14/54	4H
	5th Memo dtd 3/5/54	3H
(2)	<u>Non-Linear Capicitance or Inductance Switching, Amplifying and Memory Organs</u> (Apr. 28, 1954), plus 23 figures.	77TL 8L
(3)	<u>The use of non-linear inductances and capacitances as switching and amplifying components. (With particular regard to such a use of crystal diodes.)</u> [1st version] Feb. 16-19, 1954.	71T
(4)	<u>_____.</u> [2nd version] Title: <u>Non-linear capacitance or inductance switching, amplifying and memory devices</u> (March 1954).	71T
	Transcript (incomplete) of tape recording of JvN speech based on (1)-(4) above at I.B.M. Watson Lab. (Apr. 29, 1954). [Includes discussion period also.]	80T
	H.H. Goldstine: "Hurd told me that this has not been published by I.B.M. It is, however, in extremely rough shape."	
1955	Speech at American Psychiatric Assoc., Atlantic City (May 1955) re: a discussion and expansion of computers and nervous systems. (Relation between this and Silliman lectures?)	76T
	<u>Published.</u> The Computer and the Brain, Yale Univ. Press 1958.	

T = typed

GAME THEORY and Economics(?)

		No. of pages
1945	<u>A model of general economic equilibrium.</u> Rev. Economic Studies, 13 (1), (1945-46), pp. 1-9. No. 90a on bibliog.	9T
1948	<u>A numerical method for determination of the value and the best strategies of a 0-sum, 2-person game with large numbers of strategies.</u> (1948). (Being referred to in an article by A.W. Tucker.) Cf. 1954 paper on "A numerical method to determine optimum strategy."	30T
1950	<u>Solutions of games by differential equations.</u> With G.W. Brown. "Contributions to the Theory of Games." Ann. Math. Stud. No. 24, Princeton U. Press (1950), pp. 73-79. No. 102 on bibliog.	7T
1953	<u>A certain zero-sum two-person game equivalent to the optimal assignment problem.</u> "Contributions to the Theory of Games," Vol. II. Ann. Math. Stud. No. 28, Princeton U. Press 1953, pp. 5-12. No. 113 on bibliog.	8T
	<u>Two variants of poker.</u> With D.B. Gillies and J.P. Mayberry. "Contributions to the Theory of Games," Vol. II. Ann. Math. Stud. No. 28, Princeton U. Press 1953, pp. 13-50. No. 114 on bibliog.	36T
1954	<u>A numerical method to determine optimum strategy.</u> Naval Res. Log. Quarterly, Vol. 1, No. 2, June (1954), pp. 109-115. No. 117 on bibliog.	7T

E = printed
 T = typed

HYDRODYNAMICAL AND RELATED REPORTS
 (including Meteorology)

		No. of Pages
1941	<u>Shock waves started by an infinitesimally short detonation of given (positive) and finite) energy.</u> June 30, 1941. NDRC, Div. 8 (Am-9).	32T
1942	<u>Theory of Detonation Waves.</u> A progress report to Apr 1, 1942, no. 238. May 4, 1942. IAS, OSRD-549 (NDRC-8-238).	34(T?)
1943	<u>Theory of Shock Waves</u> (to Aug 31, 1942). Jan. 29, 1943. IAS, OSRD-1140. (Los Alamos library?)	?
	<u>Oblique reflection of shocks.</u> Oct. 12, 1943. BuOrd, Explosives Res. Rpt. No. 12, (AM-251).	75(T?)
1944	<u>[Analysis of data on shock intersections.</u> Progress Rpt I. By P.C. Keenan and R.J. Seeger. Feb. 3, 1944. BuOrd, Explosives Res. Rpt no. 15. "This analysis was made with J. von Neumann." (AM-496).]	?
	<u>Shock Hydrodynamics and blast waves.</u> By H.A. Bethe, K. Fuchs, J. von Neumann, R. Peierls and W.G. Penny; notes written by J.O. Hirschfelder. Oct. 28, 1944. 106 pp. Lectures by J. von Neumann: <u>Riemann Method; Shock Waves and Discontinuities (one-dimensional); Two-dimensional Hydrodynamics.</u> LASL, LA-165, AEC-2860.	?
	<u>Motion of a cavity in a fluid-collapse and rebound</u> (about 1944).	23H
	<u>Report of informal technical conference on the mechanism of detonation.</u> Apr. 10, 1944. 19 pp. <u>Introductory Remarks, Section on Theory of Spinning Detonation, Section on Theory of Intermediate Product,</u> by J. von Neumann. IAS (AM-570).	?
	<u>Proposal and analysis of a numerical method for the treatment of hydrodynamical shock problems.</u> March 20, 1944. IAS, AMP Rpt 108.1R, OSRD-3617 (AM-551).	31T
1945	<u>The similarity solution for a collapsing spherical cavity near zero radius.</u> By J.W. Calkin, J. von Neumann and R. Peierls. Jan 31, 1945. LASL, LA-210.	63(T?)
	<u>Technical conference on supersonic flow and shock waves,</u> July 16, 1945. Paper I: <u>Refraction, Intersection and Reflection of Shock Waves,</u> by J. von Neumann, pp. 4-12. BuOrd, NAVORD Rpt 203-45 (Am-1663).	9(T?)
1947	<u>Blast Wave.</u> Los Alamos Tech. Series, vol. VII, pt. 1 (Chapters 1 through 4), H. Bethe, ed. Aug. 13, 1947. 241 pp. Chapter 2: <u>The point source solution,</u> by J. von Neumann. LASL, LA-1020.	?
1948	<u>On the theory of stationary detonation waves.</u> File No. IL22 (20 Sept. 1948) BRL, Aberdeen Proving Ground, Md. No. 98 on bibliog.	26T
1949	<u>Discussion on the existence and uniqueness or multiplicity of solutions of the aerodynamical equations</u> (Chap. 10) of "Problems of Cosmical Aerodynamics," Proc. of Symp. on Motion of Gaseous Masses of Cosmical Dimensions, Paris, Aug. 16-19, 1949. Central Air Doc. Office (1951), pp. 75-84. No. 108 on bibliog.	10T

HYDRODYNAMICAL AND RELATED REPORTS (including Meteorology) - cont'd

		No. of Pages
1949	<u>Recent Theories of Turbulence</u> . Talk at Princeton and report written for ONR 1949. JvN considered it "very preliminary" and expected to re-write it and probably expand it before it was published.	68T
1950	<u>A method for the numerical calculation of hydrodynamic shocks</u> . With R.D. Richtmyer. <i>J. App. Phys.</i> 21 (1950), pp. 232-237. No. 100 on bibliog.	6P
	<u>Numerical integration of the barotropic vorticity equation</u> . With J.G. Charney and R. Fjørtoft. <i>Tellus</i> 2 (1950), pp. 237-254. No. 104 on bibliog.	18P
1950-51	<u>Description of the conformal mapping method for the integration of partial differential equation systems with 1+2 independent variables</u> . (1950-51).	30T and 3H
1953	<u>Taylor instability of incompressible liquids. Part 2: Taylor instability at the boundary of two incompressible liquids</u> . By E. Fermi and J. von Neumann. Aug. 19, 1953. 13 pp. LASL, AEGU-2929 (LADC-1872 pt. 2).	6T
1955	<u>Blast Wave Calculation</u> . With H.H. Goldstine. <i>Comm. Pure and Applied Math.</i> , Vol. VIII (1955), pp. 327-353. No. 123 on bibliog.	27P
1954	<u>MS on Taylor instability problem</u> . Paper begins: "We wish to discuss and set up for numerical calculation an ideal gas flow in a two-substance system, with gliding permitted along the interface. Shocks may develop, they will be treated with a pseudo-viscosity. Body forces may be present. The Lagrangian treatment will be used...." Paper contains an error in the statement of the boundary condition on p. 22, in that it is said that the normal component of acceleration (sic, not velocity) is continuous across the boundary.	41H
Date?	<u>The Fourier transformation method for 2-dimensional (baratropic) meteorological prediction</u> .	17T and 16H
	J.G. Charney: "John's report entitled 'The Fourier transformation ... prediction' has never been published to my knowledge. However, we did use the method in a joint paper entitled 'Numerical integration of the barotropic vorticity equation' which appeared in <i>Tellus</i> , Vol 2, No. 4, 1950. In this paper the method is set forth in detail; hence I see no point in publishing the report."	

P = printed
T = typed

NUMERICAL ANALYSIS AND COMPUTATION

		No. of Pages
1942	<u>Approximative properties of matrices of high finite order.</u> Portugaliae Math., 3 (1942), pp. 1-62. No. 86 on bibliog.	62P
1946	<u>Solution of linear systems of high order.</u> With V. Bargmann and D. Montgomery. Report prepared for Navy BuOrd under Contract Nerd-9596 (25 Oct 1946). No. 91 on bibliog.	85T
1947	<u>On the numerical solution of partial differential equations of parabolic type.</u> With R.D. Richtmyer. LASL, LA-657, Dec 25, 1947.	17(T?)
	<u>Numerical inverting of matrices of high order.</u> With H.H. Goldstine. AMS Bull. 53 (1947), pp. 1021-1099. No. 94 on bibliog.	79P
	<u>Stability of Finite Difference Representations.</u> Abstract by M.A. Hyman of JvN talk at White Oak, Aug 27, 1947. Mech. Div. Tech. Note 83/Tm-18.2-11.	9T
	C. Eckart: "The two 1948 reports on <u>Numerical Calculation of Flow Problems</u> contain more on this topic. In particular, a detailed example of the 'assertion' mentioned by Hyman is given. I have the impression that there is still no systematic exposition of these matters available, although they are more or less known in the computer game."	
1950	<u>Statistical treatment of values of first 2000 decimal digits of e and of Pi calculated on the ENIAC.</u> With W.C. Metropolis and G. Reitwiesner. Math. Tables and Other Aids to Comp., 4 (1950), pp. 109-111. No. 103 on bibliog.	3P
1951	<u>Numerical inverting of matrices of high order, II.</u> With H.H. Goldstine. AMS Proc. 2 (1951), pp. 188-202. No. 109 on bibliog.	15P
	<u>Various techniques used in connection with random digits.</u> (Chap. 13) of proceedings of symposium on "Monte Carlo Method" held June-July 1949 in Los Angeles. Nat'l. BuStandards, Applied Math. Series 12 (June 11, 1951), pp. 36-38. No. 110 on bibliog.	3P
	<u>Remarks concerning various forms of the "Relaxation Method."</u> Apr. 9, 1951. (Cf. Sheldon in MTAC 1955)	17H
	H.H. Goldstine: "JvN and I were writing a paper on this. It has not been published and should not be as it stands--there are errors in it."	
1952	A paper which begins, "The purpose of this paper is to find a rapidly converging iterative method for the solution of <u>linear equation systems</u>" July 1952.	38H
	A.H.Taub: "A copy of this exists in Los Alamos and is the basis of an extensive computation made by Blair for Metropolis. A report on this computation is being written and this manuscript may become an appendix to that report."	

NUMERICAL ANALYSIS AND COMPUTATION - cont'd

		No. of Pages
1953	<u>A Numerical Study of a Conjecture of Kummer. With H.H. Goldstine. MTAC VII, No. 42 (1953), pp. 133-134. No. 128 on bibliog.</u>	2P
1955	<u>Continued Fraction Expansion of $2^{1/3}$. With B. Tuckerman. Math. Tables and Other Aids to Comp. IX, No. 49, Jan. 1955. No. 122 on bibliog.</u>	1P
Date?	<u>Discussion of the cylinder symmetrical geometry of points and trajectories.</u>	7T

NUMERICAL ANALYSIS AND COMPUTATION
Addendum

		No. of Pages
1948	<u>First Report on the Numerical Calculation of Flow Problems. Carter Oil Co., Tulsa, Okla., June 22-July 6, 1948. [Part I: General remarks concerning computing machines; Part II: Preliminary considerations concerning flow equations; Part III: Stability theory of the flow equations.]</u>	80T
	<u>Second Report on the Numerical Calculation of Flow Problems. Carter Oil Co., July 25-Aug 22, 1948. [Part IV: New setup of flow equations; Part V: Discussion of numerical procedure to solve flow equations.]</u>	72T
1949	Memo 1/22/49 on <u>Surface, gravity waves in a deep, viscous, incompressible fluid.</u> Handwritten copy also exists.	15T
1950	Memo 4/6/50 on " <u>Underground burning</u> " problem.	37T
	Memo 3/17/50 on " <u>Gas Drive and Gravity Drainage</u> " problem, with attached 14 figures.	17H 6H
1952	Memo 1/31/52 to W.A. Bruce, Carter Oil on the <u>P.G.O. problem.</u> Memo 4/22/52 to Bruce and H. Welge, with corrections to above memo. (Above 2 memoranda may be basis for 1953 report.)	10T 10T 5H
1953	Memo 3/2/53 on " <u>Solution of the Differential Equations for the Time-of-Contact Studies.</u> (B.L. Schulman has memo on problem in same folder.)	5T
	<u>An Analysis of the Linear Displacement of Oil by Gas-Driven Solvent, with E.F. Johnson and H.J. Welge, June 1953, Carter Oil Co., with appendices A-I. [Confidential: For Company Use Only.]</u>	21T 19T
1954	MS on the <u>linear displacement of oil by water from a porous media</u> 5/7/54.	20H

T = typed

SPEECHES AND GENERAL ARTICLES

		No. of Pages
1946	<u>The Principles of Large Scale Computing Machines.</u> Speech at meeting of Mathematical Computing Advisory Panel 15 May 1946. Copies distributed by Office of Res. and Inventions, Planning Div., Math. Sec.	16T
1947	<u>The Mathematician.</u> "The Works of the Mind." U. of Chicago Press (1947), pp. 180-196. No. 93 on bibliog.	17P
1947-8?	<u>Paper on general discussion of need for fast computing.</u> Unpublished. Some material absorbed in later articles and speeches.	72T
1954	? <u>The NORC and Problems in High Speed Computing.</u> Speech at first public showing of I.B.M. Naval Ordnance Research Calculator, Dec. 2, 1954. No. 118 on bibliog.	9P
	<u>Knowledge and its methods: the physical sciences.</u> Talk at Unity of Knowledge Conf., Arden House Oct. 27-30, 1954.	11T
1955	<u>Can we Survive Technology?</u> Fortune, June 1955. No. 120 on bibliog.	16P
	<u>Impact of Atomic Energy on the Physical and Chemical Sciences.</u> Speech at M.I.T. Alumni Day Symposium, June 13, 1955. Tech. Rev. Nov. 1955, pp. 15-17. No. 125 on bibliog.	3P

STATISTICS AND APPLIED STATISTICS

		No. of Pages
1940	<u>The estimation of the probable error from successive differences.</u> With R.H. Kent. Aberdeen Proving Ground, Md., Rpt No. 175 (1940). No. 78a on bibliog.	19P
1941	<u>The mean square successive difference.</u> With R.H. Kent, H.R. Bellinson and B.I. Hart. Ann. Math. Stat., 12 (1941), pp. 153-162. No. 79 on bibliog.	10P
	<u>Distribution of the ratio of the mean square successive difference to the variance.</u> Ann. Math. Stat., 12 (1941), pp. 367-395. No. 81 on bibliog.	29P
1942	<u>A further remark concerning the distribution of the ratio of the mean square successive difference to the variance.</u> Ann. Math. Stat., 13 (1942), pp. 86-88. No. 82 on bibliog.	3P
	Tabulation of the probabilities for the ratio of the mean square successive difference to the variance. By B.I. Hart, with a note by J. von Neumann. Ann. Math. Stat., 13 (1942), pp. 207-214. No. 85 on bibliog.	8P
	Optimum spacing of bombs or shots in the presence of systematic errors. By R.H. Kent, L.S. Dederick and A.G. Smith, with appendix, <u>Optimum Aiming at an Imperfectly Located Target</u> by J. von Neumann. BRL 241.	?

Unpublished Manuscripts of John von Neumann
(Incomplete lists)

Random and/or Miscellaneous Notes
(Not to be published)

L = legal-size paper

III a.

Unpublished manuscripts of John von Neumann
(Incomplete list)

No. of
Pages
7H

- Date? 1. Mathematical discussion of Graham's theory of foreign trade. 7H
- O. Morgenstern: "These notes are incomplete--nothing to publish here."
- Misc. notes on mathematical economics.
- O. Morgenstern: "I doubt that it would be possible to publish any of the different notes. They are too sketchy--but what a pity the studies were not completed!"
- On production and value in stationary equilibrium. 32H
- O. Morgenstern: "This paper treats the problems of JvN's paper, published in *Erg. eines Math. Colloq.* (Ed. K. Menger), Vienna 1937, republished in English 1945. The treatment here has more of an introduction (in words) but does not lead up to the results published."
- Über eine beim Problem der Preisbildung auftretende mathematische Frage. 19H
- O. Morgenstern: "An early draft of the paper published 1937 in *Erg. eines Math. Colloq.* Incomplete."
- Date? 2. Discussion of static solutions of the Einstein Field equations for a perfect fluid with $T^c_c = 0$. Contains a detailed discussion of the differential equations and their types of solutions. 10HL
- Date? 3. On relativistic gas-degeneracy and the collapsed configuration of stars. Calculation of equation of state of a Fermi-Dirac gas. [Cf. with material appearing in Chandrasekhar's book.] Probably not publishable. 16HL
- 1931-32 4. Lectures on Methods of Mathematical Physics, Princeton Univ. 1931-32, by Condon and JvN, notes by J.D. Stewart. §1 on Fourier Series by JvN. 21T
- 1933-4? 5. On an algebraic generalization of the quantum mechanical formalism. I. 92H
- S. Kakutani: "Pages 1-58 draft of published paper (No. 50). Pages 59-91, Part II?--probably never published."
- I. Kaplansky: "Right. Pages 1-58 are a draft of this paper. The promised Part II never appeared. Pages 59-91 are (I think) only a part of what he had in mind. They cover the 'discrete' case (Type I), which is the easy case. Publication would be a historical curiosity now, although someone wanting to continue this work would get some hints from it. Query: Where is the rest?"

		No. of Pages
1933?	6. A. Rosenberg: "Feel from a very short glance that there may not be very much new in here. It seems to deal with the <u>decomposition of a simple ring with d.c.c. into a tensor product of a subalgebra and centralizer.</u> "	6H
	I. Kaplansky: "Check. Would guess that these were notes (1933 or so?) collecting thoughts on tensor products, motivated by rings of operators. Quite outdated now."	
1933	7. <u>Quantum Electrodynamics</u> . 1933 lectures, notes by A.H. Taub.	148T
1935	8. <u>The point-source model</u> . (This material appears in Chandrasekhar's book " <u>Stellar Structure</u> ." Not publishable. AHT)	31H
1936	9. <u>Continuous Geometry, Parts I, II and III</u> . IAS lectures (1936), notes by L. Roy Wilcox.	274T
	I. Kaplansky: "This folder contains: (1) Part I of Cont. Geom. with 2 ltrs from Löwig (one to K8the); (2) Parts II and II of Cont. Geom. with JvN's acknowledgment of Löwig's criticisms. Also a 2-page insert by JvN improving Th. 13.1 (sent to K8the, thence to Löwig); (3) A folder labelled 'Continuous rings, etc.' It has 3 manuscripts:	
	α : pages 1-50	50H
	β : " 1*-19*	
	γ : " 1**~20**	19H
	"α concerns the 'arithmetic of continuous rings' as sketched in PRAS 1937, 341-349. It just begins to get somewhere. Unpublished.	
	"β proves that the continuous geometries constructed purely algebraically are never isomorphic to those obtained from rings of operators. I never heard of this result. Still eminently publishable. (To be published in Ann. Math. under title "Non-isomorphism of certain continuous rings," w/intro. by I. Kaplansky	
	"γ shows that the algebraic continuous geometries are independent of the sequence of integers used in their construction. Very similar to R. of O. IV. Could be published. It trails off but is easily completed.	
	"(4) Pages 61-88 of a MS. It looks like the paper promised in R. of O. I that starts with an abstract algebra with a trace and winds up with a factor of type II ₁ . Where is the rest?	28H
	"(5) A MS of 143 pages. The general drift is to put axioms on a continuous geometry so as ultimately to wind up with a factor of Type II ₁ . I wasn't aware he had ever done this. 'Transitional probabilities' pop up now and then. The paper ends as if he were going to continue a long time."	140H
	"Added the next day: No. (5) is a preliminary draft of 'Cont. Geom., trans. prob., etc.' of which there is a 221 pp. (incomplete) draft." [See No. 11.]	

No. of
 Pages
 76H

- 1936 10. Introduction of a ring for a complemented, modular lattice L of order
 $n \geq 4$.
- I. Kaplansky: "Superseded by mimeographed lectures."
- 1937 11. Continuous geometries with a transition probability. (May-July 1937). 235H
 Third draft.
- I. Kaplansky: "This enormous manuscript is what he conceived to be a definitive attempt to characterize factors of type II_1 . It ends in the middle of Chap. IX. A note in front asserts that Ax. IX is too strong and spoils the work. Sundry fragments here and elsewhere are by an unknown disciple. Unpublished and largely obsolete."
- 1937 12. Another draft of theory of transition probabilities. 21H
- I. Kaplansky: "As I recall there exist three other drafts of this, one of book length. For sundry reasons it (in any version) is not publishable."
- 1937? 13. Abstract characterizations of factors of type II. 21H
- I. Kaplansky: "In 'Rings of Operators. I' he referred to an abstract characterization of factors of type II, (as algebras with a unique trace and suitable axioms). I was very much interested to see what he had in mind. Twenty years later the interest in this has greatly diminished but there are still some nice tricks of the trade to be learned from it. The paper is incomplete, and it might be quite a job to complete it. I think publication is out of the question. It might be a very good idea however to let the word get around that this MS exists and that it can be borrowed from the Institute."
- 1937? 14. S. Kakutani: "Possibly first draft of his book in AMS colloquium publication series on continuous geometry." 110H
- I. Kaplansky: "Check. Very detailed lattice-theoretic preliminaries to continuous geometry. Ends abruptly."
- 1937 15. Continuous Geometry. AMS Colloquium lectures at Penn State, Sept. 1937.
 Outlines of 4 lectures:
- | | | |
|----------------|--|-----|
| First lecture: | "Projective (discrete) and continuous geometries." | 5T |
| Second " | ": "Introduction of coordinates. Relation to algebra." | 6T |
| Third " | ": "Rank rings." | 11T |
| Fourth " | ": "Transition probabilities and quantum logics." | 12T |

Also handwritten MS of above, and several handwritten pages which I. Kaplansky said are first stabs at Colloq. volume.

- 1937 16. Quantum Mechanics of Infinite Systems.
- J.H. Bigelow: "Mimeographed (presumably not published) lectures. Strictly physics and strictly out-of-date, but one set might be worth keeping in library for historical reasons. This material is JvN's contribution to Pauli's seminar entitled, 'Theory of the Positron,' given in 1937."
- Also handwritten MS, same title. 16H
- E.P. Wigner: "This is an introduction to an article which was expected to be much longer. As a matter of fact, there are references to the continuation on p. 10. As far as it is written, it does not contain information with which a competent physicist would not be familiar, or that is essentially new. However, it seems evident from the text that the continuation was present at least in the mind of Dr. von Neumann and he apparently did not get around to writing it down. It is very nicely written and shows the style of JvN in full flower. Definitely it is not for publication."
- 1937-8? 17. Representation of certain linear groups by unitary operators in Hilbert space. 63H
- V. Bargmann: "Highly interesting mathematically and also for possible applications to Quantum Theory. Probably written around 1937/38. I am not able to judge to what extent the results and methods are superseded by recent developments."
- I. Kaplansky: "As Bargmann says, it is of historical interest. He is finding the factor representations of a certain semi-direct product. I am not enough of an expert to be sure, but I think it is superseded in all essential respects by Mackey's work. Note that it is incomplete."
- 1938? 18. Quantum Logics. (Strict- and probability-logics.) Incomplete paper. 16H
- S. Bochner: "Probably related to work published with G. Birkhoff."
- 1938 19. Quantum Logics. IAS lectures 1938. 1st paragraph: "These notes constitute a summary of the essential details of the theory presented by Professor von Neumann in lectures on this subject. Only definitions, theorems and some lemmas are stated, detailed proofs being omitted. The axioms for this subject are to be found in the notes for the A.M.S. colloquium lectures (Summer, 1937). Small Roman letters will be used for elements of L." 17T
- Date? 20. Early MS on shock waves. Contains notes and 14 handwritten pages with the following 1st paragraph: "We want to formulate the equations which govern the flow associated with a shock converging on a point O and the perturbations, i.e. the stability of this flow. We assume the unperturbed flow, and with it, the unperturbed converging shock, to be spherically symmetric in space and fulfilling a similarity condition in time. The reasons for 14H

No. of
Pages

20. cont'd--

this procedure are set forth in LA 242. The perturbations, on the other hand, will not be assumed to possess any symmetry in space or in time, in fact, the purpose of our analysis is to determine under what conditions the spherically symmetric and "similarity" unperturbed flow is stable against random perturbations."

*A ref. is given to LA 242 which must be a Los Alamos report. AHT find title and contents of this report. Metropolis does not think that this work was ever reported. AHT check. MS ends with a section which states the equations of motion for the perturbed flow. MS unpublishable.

Notes are on equations relating to perturbed flow. These are equations only and no text.

Date? 21. JvN's notes on Mach effect. (These should be kept and looked at in detail. Not publishable but may be helpful to workers in shock waves, particularly Bleackney. AHT) 6H

1940 22. Discussion of De Sitter's space and of Dirac's wave equation in it. von Neumann shows that for homogeneous functions of degree zero satisfying the wave equation 17H

$$\alpha_i \frac{\partial}{\partial x_i} \psi = K \alpha_i x_i \psi$$

with $K = 2 - iRmc$

it is possible to define a (not incomplete) Hilbert space. The wave equation is one given by Dirac [Ann. Math. 36, pp 657-669 (1935)]. The method used to construct the scalar product is that previously used by E.P. Wigner. This paper is not publishable. AHT

Also ltr to Dirac dtd 1/27/34.

5H

A. Pais: "Contains discussion on the possibility of the quantization of space and time. Very interesting historically."

1940 23. Invariant Measures. 1940-41 lectures, notes by P. Halmos. Also handwritten MS of Chaps. V and VI). 228T

P. Halmos: "Except possibly for Chap. II (?) (generalized Banach limits) and Chap. VI (?) (Kakutani-Maak explicit construction), it has all been superseded or anticipated. Recommend against publication. I personally oppose the publication of any part, but on II consult W.M. Day, on VI Kakutani."

1941-2 24. A. Selberg: "A MS which is not complete in all details. There are some things that are left out. Would consider it likely that it is not published ..." 7H

S. Kakutani: "Discussion of an example in the ergodic theory which was never published. It was written during the winter term 1941-42. Consider it very interesting."

*S. Ulam 4/11/58: "LA-242 by Calkin. Title: 'Similarity solution for converging spherical shock waves near 0 radius.'"

		No. of Pages
1944?	25. <u>Motion of a cavity in a fluid-collapse and rebound.</u>	23H
1944	26. <u>Ergodic theory.</u>	11H
	S. Kakutani: "Probably introduction to lecture or book on ergodic theory which was never written up."	
	P. Halmos: "Makes contact with abstract on random ergodic theorems (with Ulam). In any case, however, there is nothing in the notes."	
1945	27. Corresp. with T.C. Koopmans.	5T
	AHT: "Minimizing with respect to X	
	$f(X) = \frac{1}{2} T(XMX') - \ln D/X$	
	X a matrix	
	M a fixed matrix."	
1946	28. <u>The Principles of Large Scale Computing Machines.</u> Speech at meeting of Mathematical Computing Advisory Panel 15 May 1946. Copies distributed by Office of Res. and Inventions, Planning Div., Math. Section.	16T
	H.H. Goldstine: "To my knowledge, not published."	
1946	29. <u>Moore School Lecture 8/13/46</u> on theory and techniques for design of electronic digital computers. Only title (no text) of JvN lecture appears in publication, "Theory and techniques for design of electronic digital computers: vol. IV. Lectures 34-43, given July 8-Aug. 31, 1946. Report No. 43-10. June 30, 1948, 159 pp."	
	There is in the files an incomplete text of this lecture taken from tape recording and a letter dtd 11/11/46 from JvN to C.C. Chambers of the Moore School which reads in part: "...In reading the typed text of my talk, as reproduced from the sound recorder, I see that it would still be a great deal of rather detailed work to put it into a publishable shape...Furthermore, Goldstine and I have to write--partly separate and partly together--various reports and at least one mathematical paper on this subject and allied ones...I am very much afraid that I would not in the end be able to keep my promises on the subject of a write-up of my Philadelphia talk, if I made such promises...I am very sorry that we both are unable to comply with your request in this matter..."	
1946	30. <u>Symmetric solutions of some general n person games.</u> Aug. 1946	13H
	A.W. Tucker said (4/23/58) this MS has been turned down by 2 referees for Ann. Math. Study 40 because not complete enough and therefore unsuitable to the memory of JvN. However, it is now in the hands of a 3rd referee and if turned down again, O. Morgenstern will undoubtedly seek elsewhere for publication as a joint article by JvN and O.M.	

		No. of Pages
1947	31. <u>Stability of Finite Difference Representations.</u> Abstract by M.A. Hyman of JvN talk at White Oak, Aug 27, 1947. Mech. Div. Tech. Note 8B/Tm-18.2-11. C. Eckart: "The two 1948 reports on <u>Numerical Calculation of Flow Problems</u> contain more on this topic. In particular, a detailed example of the 'assertion' mentioned by Hyman is given. I have the impression that there is still no systematic exposition of these matters available, although they are more or less known in the computer game."	9T
1947	32. <u>Discussion of a Maximum Problem</u> , Nov. 15-16, 1947. (Not fit for publication--being referred to in an article by A.W. Tucker-AHT)	9T
1947-8?	33. Paper on general discussion of <u>need for fast computing</u> . Unpublished. Some material absorbed in later articles and speeches.	72T
1948	34. <u>A numerical method for determination of the value and the best strategies of a 0-sum, 2-person game with large numbers of strategies.</u> 1948. (Being referred to in an article by A.W. Tucker. Cf. 1954 paper on "A Numerical method to determine optimum strategy.")	30T
1949	35. <u>Recent Theories of Turbulence.</u> Talk at Princeton and report written for ONR 1949. JvN considered it "very preliminary" and expected to re-write it and probably expand it before it was published. Also, MS on <u>Turbulence-Average Theorems</u> (in German) (date?).	68T 23H
1949	36. <u>Discussion of nervous system</u> in corresp. with K.F. Bonhoeffer (in German). Ltr dtd 2/17/49 Ltr dtd 4/5/49 (plus 4 handwritten pages of figs.)	2T 7T
195-?	37. <u>Discussion of the cylinder symmetrical geometry of points and trajectories.</u>	6T and 1H
195-?	38. <u>The Fourier transformation method for 2-dimensional (barotropic) meteorological prediction.</u> J.G. Charney: "John's report entitled 'The Fourier transformation ... prediction' has never been published to my knowledge. However, we did use the method in a joint paper entitled 'Numerical integration of the barotropic vorticity equation' which appeared in <i>Tellus</i> , Vol 2, No 4, 1950. In this paper the method is set forth in detail; hence I see no point in publishing the report."	17T and 16H
1950-1	39. <u>Description of the conformal mapping method for the integration of partial differential equation systems with 1+2 independent variables.</u> Dec 16, 1950-Jan 8, 1951.	30T and 3H
1951	40. <u>Remarks concerning various forms of the "Relaxation Method."</u> Apr. 9, 1951. (Cf. Sheldon in NTAC 1955) H.H. Goldstine: "JvN and I were writing a paper on this. It has not been published and should not be as it stands--there are errors in it."	17H

		No. of Pages
1952	41. <u>The Theory of Automata, Chaps. I and II (about 1952).</u>	72T
	Original typescript and photostat of typescript (supposedly revision of above manuscript?) written later, plus 105 figures.	161T 24H
	F. J. Murray: "The major objectives of photostat was to tackle the problem mentioned on p. 29 of <u>General and Logical Theory of Automata</u> . From p. 37 of photostat, one infers that he is discussing the construction of automata in 2 dimensions, and this one ties in with the statement in Chap. I, pp. 7 and 8 of <u>Theory of Automata</u> concerning the construction of automata and space. On p. 49 of photostat, Sec. 10, the first 3 paragraphs indicate his general purpose. Should be read in conjunction with <u>General and Logical Theory of Automata</u> . Photostat is technical discussion behind the general statements of that paper. Consider photostat very valuable if the proof has been completed. Should be very carefully evaluated."	
1952	42. A paper which begins, "The purpose of this paper is to find a rapidly converging iterative method for the solution of <u>linear equation systems...</u> "	38H
	AHT: "A copy of this exists in Los Alamos and is the basis of an extensive computation made by Blair for Metropolis. A report on this computation is being written and this manuscript may become an appendix to that report."	
1953	43. <u>Notes on the photon-disequilibrium-amplification scheme.</u> Sept 16, 1953.	31T
	E. Teller (in ltr to AHT 2/6/58): "Johnny von Neumann discussed the paper in question with me and actually it was going to be a joint publication. I was not terribly happy about it, however, and apart from criticizing his first draft, I did not do much of further work.	
	"Johnny's suggestion has the merit of great speed. At that time I had the feeling that it would not be very practical. I think that it would be perfectly all right to include it in his papers essentially in the form it now is. If you want my help for editing purposes I shall be glad to do so, particularly if you let me have the copies with my pencilled remarks.	
	"My offhand judgment would be that it would do no harm to forget about the paper. What action you take should depend on the question of whether you consider the suggestion as helpful and whether you aim at a really complete survey of Johnny's suggestions. Johnny took this possibility quite seriously at the time and if completeness is your aim, you must certainly include the manuscript."	

		<u>No. of Pages</u>
1953-54	44. Memoranda pertaining to patent obtained by JvN and assigned to I.B.M. re: <u>"results regarding the use of crystal diodes for 'flip-flop' action, amplification, etc. and generally for universal computing machine componsry."</u>	
	(1) 1st Memo dtd 11/17/53	3T
	Attached MS	95H
	2nd Memo dtd 12/3/53	8H
	3rd " " 1/25/54	5H
	4th " " 2/15/54	
	Attached manuscripts: MS dtd 12/27/53-1/10/54	35H
	" " 2/5/54-2/13/54	30H
	" " 2/13/54	3H
	" " 2/14/54	10H
	" " 2/14/54	4H
	5th Memo dtd 3/5/54	3H
	(2) <u>Non-Linear Capacitance or Inductance Switching, Amplifying and Memory Organs</u> (Apr 28, 1954), plus 23 figs.	77TL 8L
	(3) <u>The use of non-linear inductances and capacitances as switching and amplifying components. (With particular regard to such a use of crystal diodes.)</u> [1st version] Feb 16-19, 1954.	71T
	(4) <u>_____</u> . [2nd version] Title: <u>Non-linear capacitance or inductance switching, amplifying and memory devices</u> (March 1954).	71T
	Transcript (incomplete) of tape recording of JvN speech based on (1)-(4) above at I.B.M. Watson Lab. (Apr 29, 1954). [Includes discussion period also.]	80T
	H.H. Goldstine: "Hurd told me that this has not been published by I.B.M. It is, however, in extremely rough shape."	
1954	45. MS on <u>Taylor instability problem</u> . Paper begins: "We wish to discuss and set up for numerical calculation an ideal gas flow in a two-substance system, with gliding permitted along the interface. Shocks may develop, they will be treated with a pseudo-viscosity. Body forces may be present. The Lagrangian treatment will be used. ..."	41H
	Paper contains an error in the statement of the boundary condition on p. 22, in that it is said that the normal component of acceleration (sic, not velocity) is continuous across the boundary.	
1954	46. <u>Knowledge and its methods: the physical sciences</u> . Talk at Unity of Knowledge Conf., Arden House Oct. 27-30, 1954.	11T
1955	47. Speech at American Psychiatric Assoc., Atlantic City (May 1955) re: a discussion and expansion of <u>computers and nervous systems</u>. (Relation between this and Silliman lectures?)	76T
	Published. <u>The Computer and the Brain</u> (Silliman lectures), Yale U. Press, 1958.	

III b.

Random and/or Misc. Notes (not to be published)

- 3.1 An inequality concerning rational functions of non-Hermitian matrices. Cf. No. 86 on bibliog.
S. Bochner: "Notes to basic properties on operators--not far advanced."
- 3.2 Operator theory. Analysis. Lattices.
S. Bochner: "Calculations of special things to operators--of no consequence."
- 3.3 On generalised matrix-algebras with a unique trace.
F.J. Murray: "This is the beginning of an effort to motivate the whole rings of operator theory. Unfortunately it is far too incomplete to be of any use."
- 3.4 Misc. papers, including table of contents of thesis.
- 3.5 Aleph-Boolean algebra manuscript.
- 3.6 Random notes on group theory, topology.
- 3.7 Random notes on functional spaces.
- 3.8 On Alternative Systems of Logics. (Introduction only.)
- 3.9 Simplified treatment of Lebesgue-type measure theory, based on the open sets.
S. Bochner: "Notes on expository lecture--probably of no value."
- 3.10 Notes on operator theory and quantum mechanics.
S. Bochner: "Evidently notes absorbed in other things."
- 3.11 Notes of a discussion with R. Post and J. Tuck 1/9/53. (Fragment, not publishable as such--AHT)
- 3.12 Notion of measure. (Notes for other papers, discussions, etc.)
- 3.13 Misc. notes on various problems such as numerical analysis and codes for using computer.
- 3.14 Ltr dtd 4/10/50 to Northrop Aircraft re: applications of Maddida-like machines, in particular one with a fundamental operation of matrix multiplication.
(To be studied in detail with view to modern computers--AHT)
- 3.15 Normal hypercomplex number systems (rings) and continuous geometries. (Misc. notes 1936.)

Random and/or Misc. Notes - cont'd.

- 3.16 Lattices and dimension. (Preliminary notes on Cont. Geom. 1935.)
- 3.17 Performance statistics for meteorology.
- 3.18 Schema for ENIAC calculations in March-April, 1950.
KvN: "Original manuscript for first meteorology machine calculation by JvN."
- 3.19 General relativity. Quantum mechanics. (ANT wants to study these in great detail.)
- 3.20 Discussion of $a = \left| \frac{shz}{z} \right|$, $\alpha > 0$ real, z complex.
- 3.21 Stability of finite difference schemes for wave equation in 2 variables.
H.H.Goldstine: "Substance of this appears in Collatz's book ... not now original material."
- 3.22 Notes on hydrodynamics with energy equation and momentum equation having "source" terms.
- 3.23 Remarks on solutions of stationary viscous flow.
C. Eckart: "This looks like Stokes law or something similar. Cf. with sections in Lamb's Hydrodynamics."
- 3.24 Algebraic treatment of 3 shock configurations for weak incidence and reflected shocks. (Small notebook)
- 3.25 Use of solvent to get oil out of sand. Conformal mapping problem. (Related to work done for Carter Oil Co.)
- 3.26 Coding scheme for the "Poiseuille-flow stability" problem. (1948) (Results of calculation referred to here may have been published by Pekeris and/or Lin--ANT)

9 April 1958

Memorandum to Mr. Morgan:

This will authorize you to charge our Office of Naval Research contract Nonr 1358 (06) and pay Dr. Taub the sum of \$550. This is a consulting fee for eleven days, at the rate of \$50. a day, which Dr. Taub spent in January, March and April of this year on the preparation for publication of the von Neumann papers.

Robert Oppenheimer

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS

April 8, 1958

Dear Dr. Oppenheimer:

Enclosed please find a statement of the time I have spent working on the von Neumann papers during the periods January 22-27 and March 31-April 8. This is essentially my bill for my consulting fees.

I am attaching herewith copies of the trip reports, describing the work I have done during these periods.

Sincerely yours,



A. H. Taub

AHT:esg
Enclosures

Dr. R. Oppenheimer
Institute for Advanced Study

For time spent preparing von Neumann papers for publication:

<u>1958</u>	<u>Days</u>
January 22-27	5
March 31-April 8	<u>6</u>
TOTAL	11

A. H. Taub

A. H. Taub

esg

April 8, 1958

COPY

COPY

Trip Report

INSTITUTE FOR ADVANCED STUDY
Princeton, New Jersey

January 22 - January 27, 1958

During the period January 23-26 inclusive, I was at the Institute for Advanced Study working on the von Neumann papers. On January 22 and January 27 I was enroute to and from the Institute. While at the Institute I spent time on

1. getting acquainted with the von Neumann file,
2. corresponding with various people regarding material in these files,
3. conferring with H. H. Goldstine concerning material relating to computers,
4. conferring with A. W. Tucker and O. Morgenstern regarding material having to do with Game Theory, and
5. checking various reprints.

The time spent on item 5 was a very small percentage of the total time.



A. H. Taub

rdt

March 12, 1958

Trip Report

INSTITUTE FOR ADVANCED STUDY
Princeton, New Jersey

March 31 - April 8, 1958

During this period I consulted with Mrs. von Neumann on March 31 in Washington on matters related to the publication of the von Neumann papers. I received additional material from her which was placed in the von Neumann files.

The period April 2 to April 8 was spent in Princeton working on the material in the files. Some of the material that might be published was tentatively listed under the following categories:

Design of Computers and Theory of Automata
Game Theory and Economics
Hydrodynamical and Related Reports (including meteorology)
Numerical Analysis and Computation
Speeches and General Articles
Statistics and Applied Statistics

Copies of the lists are being made.

In addition, some material in the files was studied in some detail and summaries of the contents of various manuscripts were written.

Arrangements were made for having copies made of some manuscripts having to do with relativity theory. These will be studied with greater care away from Princeton.

A. H. Taub

A. H. Taub

esg

April 8, 1958

University of Illinois **DIGITAL COMPUTER LABORATORY**

GRADUATE COLLEGE

168 Engineering Research Laboratory · URBANA, ILLINOIS

March 18, 1958

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

Dear Dr. Oppenheimer:

Thank you for your letter of March 14. I am hoping to spend the period April 2 to April 7 at the Institute working on the von Neumann papers. I shall probably arrive on the evening of April 2 and leave sometime in the afternoon of April 7. I would very much appreciate having a chance to talk to you on April 3.

*informed
Mrs. Barnett
Mrs. Gorman*

day free

Your suggestion regarding a consulting fee is quite acceptable to me for the occasional visits I am presently able to make to the Institute. However in case it becomes necessary and feasible for me to have a more extended stay at the Institute, I would not be able to afford it under such an arrangement since my present salary at the University of Illinois is \$16,000 for the academic year.

I am looking forward to seeing you soon.
Best regards.

Sincerely yours,



A. H. Taub

AHT/hc

14 March 1958

Dear Dr. Taub:

Thank you for your note of March 12th. Your suggestion about expenses and fee for your visit last January seems to me completely right. I should think a \$50. a day consulting fee would seem modest and appropriate, but I am quite open to counter suggestions.

I look forward to seeing you in early April, and we can get everything settled then.

Very sincerely,

Robert Oppenheimer

Dr. A. Taub
Digital Computer Laboratory
University of Illinois
Urbana, Illinois

cc: Mrs. von Neumann
Mr. Morgan

NOTE TO MR. MORGAN: Dr. Taub suggested that expenses and consulting fee for his January visit should be charged to the ONR contract with Institute for von Neumann publication. He will submit a travel account to us.

University of Illinois **DIGITAL COMPUTER LABORATORY**

GRADUATE COLLEGE

168 Engineering Research Laboratory · URBANA, ILLINOIS

March 12, 1958

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

Dear Dr. Oppenheimer:

The enclosed memoranda constitute the summary of my work at the Institute during the period January 23-26, 1958, which I referred to in my letter of February 4, 1958.

I think you will agree with me that most of my time was spent on work pertaining to unpublished documents rather than work connected with the republication of already published material.

I feel that the publisher of the von Neumann papers should be charged for editorial work connected with publication of already published material or material already prepared for publication. The only item listed in the trip report which is of this sort is item 5, and this represents a small fraction of the time I spent in Princeton.

I would therefore suggest that the expenses for this trip be borne by the ONR contract. I did not think I would make this suggestion when we talked about this matter early in January. If you agree to this, I shall return Maxwell's consulting fee to him and submit my travel account to the Institute.

I should like to discuss with you the question of an Institute (ONR) consulting fee for time I spend in Princeton working on the von Neumann papers. If it is convenient to you and your staff, I should like to spend part of the first week in April at the Institute working on the von Neumann files. Perhaps we could discuss this question then.

I hope you agree that my proposal for distributing the charges on this publication project is a reasonable one, and its application to the past trip is also reasonable. I am looking forward to receiving your comments.

Sincerely yours,



Abe Taub

rdt

Enclosures 2

CC: Mrs. Klari von Neumann

Trip Report
INSTITUTE FOR ADVANCED STUDY
Princeton, New Jersey

January 22 - January 27, 1958

During the period January 23-26 inclusive, I was at the Institute for Advanced Study working on the von Neumann papers. On January 22 and January 27 I was enroute to and from the Institute. While at the Institute I spent time on

1. getting acquainted with the von Neumann file,
2. corresponding with various people regarding material in these files,
3. conferring with H. H. Goldstine concerning material relating to computers,
4. conferring with A. W. Tucker and O. Morgenstein regarding material having to do with Game Theory, and
5. checking various reprints.

The time spent on item 5 was a very small percentage of the total time.

A. H. Taub

rdt

March 12, 1958

Memorandum on the von Neumann Scientific Papers

by

A. H. Taub

February 11, 1958

1. On the basis of various visits to the Institute for Advanced Study during which I worked on the von Neumann files I estimate that there is publishable material for about six volumes of 500 pages each.

Four volumes will contain papers published by von Neumann before 1940.

Two volumes will consist of:

- a) papers published since 1940;
- b) Government and other reports.

2. This publication will not contain all the technical unpublished material left by von Neumann of scientific interest. There are various fragmentary notes, preliminary drafts of unpublished papers and early versions of published papers. I recommend that these be collected, catalogued and kept in the Institute for Advanced Study library. They should be made available to scholars acceptable to this Institute. The catalogue should be published either with the volumes mentioned above or separately. If possible, various people should be asked to write short reviews of the items in the catalogue. These reviews should be similar to those written for Mathematical Reviews.

3. The above listing of material does not contain items such as:

- a) published books,
- b) mimeographed lecture notes,
- c) notes on Continuous Geometry,
- d) a manuscript on Automata for which there is a commitment to the University of Illinois Press.

4. Publication of the four volumes under 1 (a) could proceed almost immediately. However, some items were missing from the bound set of reprints in the Institute for Advanced Study library. These were items 6, 13, 22, 36, 37 and 39 in the typed Bibliography of John von Neumann. Mrs. Gorman was given clues as to where these may be found.

Memorandum on the von Neumann Scientific Papers (cont'd.)
February 11, 1958
Page 2

5. The preparation of the material referred to under 1 (b) for publication involves going over in great detail all the technical manuscripts of von Neumann. It is a task that will take an amount of time that I cannot now estimate. I would guess a year or so. The performance of the task will do a good part of the work necessary to carry out the recommendations made in section 2.

March 12, 1958

University of Illinois **DIGITAL COMPUTER LABORATORY**

GRADUATE COLLEGE

168 Engineering Research Laboratory · URBANA, ILLINOIS

February 4, 1958

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

Dear Dr. Oppenheimer:

This letter may clarify the messages I left with Mrs. Hobson.

I stopped in Washington on my way home from Princeton and learned a number of things that may interest you. Dr. Rigby, Dr. Weyl's successor as head of the Mathematics Branch of ONR said that a letter was on its way to you which stated that the von Neumann publication project had ONR scientific approval and that the contract people would start working on the transfer of funds soon.

1436
Dr. Cohen of NSF said that if a proposal similar to that made to ONR were submitted to him, he thought that it would receive favorable treatment and that funds will be available beginning July 1, 1958. I think it might be wise to begin negotiations with NSF in case the project grows or in case ONR is not able to support it fully.

On my return to Urbana, I found two letters from Pergamon Press. One from Maxwell in London dated January 18, and one from Miss Millar in New York dated January 22. In the first, Maxwell explained that he had been ill, that he was behind in his work and that he has not yet composed my letter of appointment. However, he agreed to paying my consultation fee for my last visit. Indeed Miss Millar's letter did contain a check for this fee and past travel expenses.

In view of Klari von Neumann's reservations against charging items to Pergamon Press before the situation with them is clarified, and even after, for fear this will be used to increase the price of the books, I am prepared to return the consultation fee to Maxwell. I am ready to abide by any agreement that you and Klari reach as to what should be charged to Pergamon Press and what should be charged to the Institute, that is, ONR.

On my return to Urbana I shall write a summary of my work at Princeton and send you a copy. This may help in deciding whether it is fair to assess charges against Pergamon Press for this trip. I shall hold my expense account for a while.

I would appreciate any comments you may have. I shall be writing Maxwell next week. With best regards,

Sincerely yours,



A. H. Taub

2/3/58

Telephone call from Dr. Taub:

1. He has talked to people in ONR. They have paper work done, and in hands of contracting officer. We should hear soon.

(NOTE: Mike has received a form letter from ONR asking for the form statement that we are not employing others outside Inst. as agent for us in this contract, etc. He is sending the statement to them)

2. NSF has told Taub that if desirable they could probably contribute. RO should write proposal.

3. Maxwell has indicated willingness to pay Taub's expenses; has indeed sent T. a check. Taub is not cashing it, as he knows Mrs. von Neumann is worried about taking expense money from Maxwell. He will check with Mrs. v.N. and RO before doing anything.

Taub was about to leave for Los Alamos. Will be away until end of this week. He may telephone from LA Wednesday, or may wait until first of next week.

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS

January 26, 1958

Dear Dr. Oppenheimer:

I want to thank you and your staff for help I have received on my present visit to Princeton to work on the von Neumann papers. I am leaving this evening for Washington where I hope to see Klari and to tell her about various things. While I am there I shall try to get ahold of ONR people and check with them on the status of the contract with the Institute. I hope that Pergamon Press will carry my expenses for this trip. If it turns out that they will not be able to do so, I am afraid that I shall have to submit them to the Institute. I hope that they can be covered by the ONR contract.

With many thanks and best regards,

Sincerely yours,



A. H. Taub

AHT:esg

Dr. Robert Oppenheimer
Institute for Advanced Study

9 January 1958

Dear Dr. Taub:

We are looking forward to seeing
you on the 22nd, and expect everything
to be ready.

Very sincerely,

Robert Oppenheimer

Dr. A. H. Taub
Digital Computer Laboratory
University of Illinois
Urbana, Illinois

University of Illinois **DIGITAL COMPUTER LABORATORY**

GRADUATE COLLEGE

168 Engineering Research Laboratory · URBANA, ILLINOIS

January 7, 1958

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

Dear Dr. Oppenheimer:

I am presently planning to spend the period
January 22 to January 27 in Princeton to work on the
von Neumann papers. I hope that this time is suitable
for your staff, particularly Mrs. Gorman.

*Betty out
sick*

I very much appreciate your earlier offer to have
housing for me and hope that it will be possible for me
to take advantage of this offer during the above period.

*Told Ruth
v.h.*

I am planning to arrive on the afternoon of Jan-
uary 22, and to leave on the afternoon of January 27. If
it turns out to be desirable, I can and shall return during
the latter part of the week of January 27.

I am looking forward to being in Princeton again.

With best regards,

Sincerely yours,

A. H. Taub

A. H. Taub

AHT/rt

cc: Mrs. E. Gorman

13 December 1957

Dear Abe:

I think you ought to see this before it goes in. Please feel free to put forward any changes that you wish.

Maxwell is coming to see me Wednesday morning. It may be that I can do something constructive about your relations to the Pergamon Press.

Will you call me as soon as you can on both these questions?

Best greetings,

Robert Oppenheimer

Professor A. H. Taub
Digital Computer Laboratory
University of Illinois
Urbana, Illinois

enclosure

University of Illinois **DIGITAL COMPUTER LABORATORY**

GRADUATE COLLEGE

168 Engineering Research Laboratory · URBANA, ILLINOIS

December 5, 1957

well

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

Dear Dr. Oppenheimer:

Thank you for your letter of December 2. I share your concern "that neither the Government of the United States nor the Institute for Advanced Study relieve a publisher of his primary responsibility, nor subsidize him in an operation which could conceivably be a source of profit to him".

I shall keep this problem in mind in my dealings with the Pergamon Press and if I may, I would like to consult you on all matters connected with this problem.

I have received a letter from Dr. Weyl of ONR outlining the form that a proposal should take. I noticed that you have received a copy of this letter. I shall be very happy to take any steps in connection with this proposal that you would like me to take, and I shall act as soon as I hear from you.

With best regards,

Sincerely yours,



A. H. Taub

AHT/rt

2 December 1957

Dear Dr. Taub:

Thank you for your long letter of November 27th. I am most grateful to you for communicating with ONR and NSF, and hope that I shall hear from them as to the necessary steps. If we do not hear within a few weeks, I shall give them a ring. We can set up funds, if any, from ONR and NSF in such a way that there will be no red tape about charging items to them.

Your last paragraph raises what seems to me a more solid question, and a greater difficulty. As I see it, Pergamon's present function is to republish the already published work of von Neumann, which should be set in order, and which may require rather minor editing. This function is separate from that of preparing unpublished manuscripts for periodical publication, and/or for eventual inclusion in a supplementary volume to be put out by Pergamon. It is also separate from the pursuit of von Neumann's original classified documents, in the hope that some of them may be declassified and republished. We at the Institute were initially prepared to undertake the first two of these three separate labors: the republication of published material and the periodical publication of appropriate posthumous material. For the third, we are not too well qualified.

When Pergamon undertook the republication program, I gladly assented, but I believe that they should assume full responsibility and full accountability for this, and that they should underwrite all expenses reasonably and directly chargeable to it. What arrangements they will then wish to make with the estate is not a matter in which the Institute should become involved. On the other hand, we at the Institute should certainly be willing, with our own funds if necessary, or Government funds if that can be provided, to arrange for the publication and the editing and examination of all of the work of von Neumann which is not now accessible in the scientific literature.

- 2 -

I recognize that there may be some difficulty in sharply dividing the costs of these two programs, nor does this concern me. I am concerned that neither the Government of the United States nor the Institute for Advanced Study relieve a publisher of his primary responsibility, nor subsidize him in an operation which could conceivably be a source of profit to him.

With all good wishes,

Robert Oppenheimer

Dr. A. H. Taub
Digital Computer Laboratory
University of Illinois
Urbana, Illinois

University of Illinois **DIGITAL COMPUTER LABORATORY**

GRADUATE COLLEGE

168 Engineering Research Laboratory · URBANA, ILLINOIS

November 27, 1957

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

Dear Dr. Oppenheimer:

o
I am very pleased that we were able to get together last Friday and enjoyed our talk very much. Since seeing you, I have written F. J. Weyl of ONR and have talked to Leon Cohen of NSF. The latter sees no difficulty in NSF providing money supporting work in connection with the publication of the von Neumann papers, and my letter to him, a copy of which is enclosed, is intended to open the matter somewhat more formally.

There is a set of topics we did not discuss, and I would very much appreciate your views on them. I am referring to the question of my responsibilities and associated authority with respect to the three groups involved: (a) the von Neumann estate (Klari), (b) the Institute and (c) the Pergamon Press. I see the situation as follows:

My responsibility is to gather, select and edit (or have edited) various von Neumann papers, reports and not otherwise committed manuscripts for publication by the Pergamon Press.

The travelling and miscellaneous expenses of myself and others I may call upon incurred in connection with this work will be borne by the Institute which in turn (it is hoped) will be at least partially reimbursed by ONR and NSF.

It may be desirable that some people be in residence at the Institute in connection with work on the von Neumann papers. They must, of course, be acceptable to the Institute. The askings from ONR and NSF should be large enough to help provide for the support of such people. At the minimum, the support of one assistant should be included in the budget requested.

The results of the gathering and editing will be submitted to Mrs. von Neumann for approval and then given to Pergamon Press for publication. The royalties, if any, will go to the von Neumann estate.

Page 2

Dr. J. R. Oppenheimer

November 27, 1957

I hope that you are in agreement with the above statements and I would appreciate your comments on the following small but sometimes troublesome point. When ONR and NSF do provide funds they usually want a "principal investigator" named. This will presumably be someone from the Institute. Does your bookkeeping system require his signature on travel vouchers and the like? If so, will this create any possible awkwardness?

Do you think that there is any conflict involved in having ONR and NSF providing funds for a project which may profit Pergamon Press and the estate? If so, should Maxwell be asked to carry some of the expenses?

I am looking forward to hearing from you. With best regards,

Sincerely yours,



A. H. Taub

AHT/rt

Enclosure 1

Page 2

Dr. J. R. Oppenheimer

November 27, 1957

I hope that you are in agreement with the above statements and I would appreciate your comments on the following small but sometimes troublesome point. When ONR and NSF do provide funds they usually want a "principal investigator" named. This will presumably be someone from the Institute. Does your bookkeeping system require his signature on travel vouchers and the like? If so, will this create any possible awkwardness?

Do you think that there is any conflict involved in having ONR and NSF providing funds for a project which may profit Pergamon Press and the estate? If so, should Maxwell be asked to carry some of the expenses?

I am looking forward to hearing from you. With best regards,

Sincerely yours,



A. H. Taub

AHT/rt

Enclosure 1

November 27, 1957

Dr. Leon W. Cohen, Head
Mathematical Science Division
NSF
Washington 25, D. C.

Dear Leon:

I am writing to ask what is the best way to initiate a request for funds from the National Science Foundation in order to support work at the Institute for Advanced Study in connection with the publication of scientific papers of John von Neumann. You may know that the Office of Naval Research can supply some financial support for this work. However, for a number of reasons it would be good if the NSF could also contribute.

I was pleased to hear from you that you would consider a request for \$10,000 for each of two years a reasonable one and one for which you could foresee no difficulty in having granted.

Please let me or Dr. Oppenheimer know what is the best way of starting this.

With best regards,

Sincerely yours,

A. H. Taub

ANT/rt

CC: Dr. J. R. Oppenheimer

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=International Letter Telegram

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

PA097 SA225

S CXA126 NL PD=CX URBANA ILL 18=

1957 NOV 18 PM 2 05

DR J R OPPENHEIMER, DIRECTOR

INSTITUTE FOR ADVANCED STUDY= PRINCETON NJER:

=THANK YOU FOR YOUR WIRE. I TOO PREFER FRIDAY MORNING.
CAN MEET YOU AT YOUR CONVENIENCE. MRS GORMAN CAN TELL
ME THE TIME BEST FOR YOU=

A H TAUB.=

TELEPHONE NO. _____
TELEPHONED TO Sessman
TIME 9:45 A
BY sc TO BE fed

message will be sent as a full rate telegram	\$
FULL RATE TELEGRAM	S
DAY LETTER	E
NIGHT LETTER	

WESTERN UNION

1206 10-51

W. P. MARSHALL, PRESIDENT

INTERNATIONAL SERVICE	
Check the class of service desired; otherwise the message will be sent at the full rate	
FULL RATE	
LETTER TELEGRAM	
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NO. WDS.-CL. OF SVC.	PD. OR COLL.	CASH NO.	CHARGE TO THE ACCOUNT OF	TIME FILED
				11/19

Send the following message, subject to the terms on back hereof, which are hereby agreed to

Thank you for your wire. I too prefer Friday morning. Can meet you at your convenience. Mrs. Gorman can tell me the time best for you.

A.H. Taub

Urbana, Ill.

Check the class of service desired; otherwise this message will be sent as a fullrate telegram	
FULL RATE TELEGRAM	
DAY LETTER	
NIGHT LETTER	

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E

WESTERN UNION

1206 10-51

W. P. MARSHALL, PRESIDENT

INTERNATIONAL SERVICE	
Check the class of service desired; otherwise the message will be sent at the full rate	
FULL RATE	
LETTER TELEGRAM	
SHIP RADIOGRAM	

NO. WDS.-CL. OF SVC.	PD. OR COLL.	CASH NO.	CHARGE TO THE ACCOUNT OF	TIME FILED

Send the following message, subject to the terms on back hereof, which are hereby agreed to

Mr. A.H. Taub

November 11, 1957

University of Illinois
 168 Engineering Research Laboratory
 Urbana, Illinois

Either Friday ^{or} ~~and~~ Saturday morning right with me. Friday slightly preferable.

Greetings,
 Robert Oppenheimer

University of Illinois **DIGITAL COMPUTER LABORATORY**

GRADUATE COLLEGE

168 Engineering Research Laboratory · URBANA, ILLINOIS

November 11, 1957

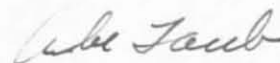
Professor J. R. Oppenheimer
The Institute for Advanced Study
Princeton, New Jersey

Dear Professor Oppenheimer:

OK
I am sorry that I had to leave Princeton on November 6 before we had an opportunity to discuss the publication of von Neumann's works. I have heard from Mrs. von Neumann about the advisability of our having such a talk and I am writing to ask if I could call on you at your office on the morning of Friday, November 22 or the morning of Saturday, November 23. The reason for these particular days is that I have to be in the East about that time and have a family duty to do in Philadelphia on the afternoon of Friday, November 22. I hope that one of these dates will be convenient for you.

I am looking forward very much to seeing you again.
With best regards,

Sincerely yours,



A. H. Taub

AHT/hc