EDUCATIONAL RESOURCE

Primary Source Workshop

Ethics and the Atomic Bomb

GRADE LEVELS: 9–12 OR UNDERGRADUATE/GRADUATE

CREATED BY

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HOW TO USE THIS PRIMARY SOURCE WORKSHOP

Since the atomic bombings of Hiroshima and Nagasaki there have been ongoing historical debates and moral discussions around the use of the bomb during the war and the potential for use again moving forward.

This workshop will look at the ongoing discussions and debates through the lens of the leadership of the Rockefeller Foundation at the time of the development and use of the atomic bomb. More specifically, the workshop will ask students to make arguments for and against the Foundation providing funding for the work that contributed to the development of the atomic bomb. Taking into account the date span in which the primary sources were created, and the internal discussions that were taking place in the Foundation, students will analyze the documents and debate the following question:

Would you as a foundation leader provide the funding that contributed to the development of the atomic bomb?

In small and whole group settings, the students will debate their decisions and articulate why funding should or should not have been provided.

This workshop will support primary source literacy skill development, and students are encouraged to use this experience as a springboard for further research into the role foundations played during World War II and, more broadly, learn about nonprofits impact on foreign policy.

HISTORICAL CONTEXT

Adapted from RE:source story, The Rockefeller Foundation's Role in Creating the Atomic Bomb.

The Rockefeller Foundation

In 1913, New York State incorporated what would soon become the largest philanthropic organization in the world: the Rockefeller Foundation (RF). The brainchild of John D. Rockefeller, Sr., his son, John D. Rockefeller, Jr., and his advisor, Frederick Gates, the RF was one of the first foundations to practice organized institutional giving and had an exceptionally broad mission:

"to promote the well-being of mankind throughout the world."

Beginning around 1917, the RF supported scientific research in the physical, medical, and natural sciences, especially in Europe and the United States. By the 1930s, the Foundation had added the social sciences to its slate of concerns. Following a major internal reorganization, the RF adopted the core strategy of promoting "the advancement of knowledge." This approach viewed intellectual discovery and exchange as the primary lever for improving "the well-being of mankind," reasoning that new knowledge would inevitably lead to human progress.

The Atomic Bomb and the Rockefeller Foundation

In August 1945, President Truman announced the use of the atomic bomb on Hiroshima in a radio address delivered hours after the bomb was dropped. He emphasized that "the greatest marvel is not the size of the enterprise, its secrecy, nor its cost, but the achievement of scientific brains in putting together infinitely complex pieces of knowledge held by many men in different fields of science into a workable plan. And hardly less marvelous has been the capacity of industry to design and of labor to operate, the machines and methods to do things never done before so that the brainchild of many minds came forth in physical shape and performed as it was supposed to do."

The decision led to not only a national debate in the months after Japan surrendered, but also an internal one at the Rockefeller Foundation (RF) because the Foundation played a role in its creation.

This debate that the Foundation grappled with is illustrated in this workshop through the perspectives of the two leaders of the RF: Raymond B. Fosdick, President of the RF from 1936-1948 and Warren Weaver, Director of the RF's Division of Natural Sciences from 1932-1954.

Between 1938 and 1939, the Rockefeller Foundation made $80,000 in grants to the University of California to build and operate a large cyclotron under physicist Dr. Ernest O. Lawrence's direction. The 60-inch cyclotron, completed in 1939, was the largest in the world. In 1940, the RF followed up with a subsequent $1,150,000 grant to build an even larger, 184-inch cyclotron. Dr. Lawrence directed the operation and realized that the 184-inch machine also had an important potential military application: its 4,200-ton magnet could be used to separate large quantities of Uranium-235, which could be used to build an atomic bomb. He asked Warren Weaver if the Foundation would consider making an additional $60,000 grant to help speed up the construction of the magnet. But when he sought to explain his reasoning, Weaver told him not to. Weaver recalled telling Lawrence,

> "I know why you want it, and if you don't tell me, then I will be in possession of no secret information and I will be under no handicaps. I think it's quite clear that you've got to get the $60,000."

Weaver relayed the details of Lawrence's request to Fosdick. Weaver recalled,

> "You see, I could tell him what was afoot because nobody had told me in any official or confidential or secret terms what was afoot... I told Mr. Fosdick that I thought that some way or other we just had to give it to him. We were, however, up against the extremely curious circumstance that we couldn't possibly explain why."
>
> *Reminiscences of Dr. Warren Weaver, transcript of interviews conducted by Oral History Research Office, Columbia University. Volume III, 1961; RAC, RG 13*

The RF trustees took Fosdick and Weaver at their word that the grant was essential and approved it. The magnet was completed in May 1942, and with the funding, Lawrence and his team were able to demonstrate how larger quantities of Uranium-235 could be produced. The U.S. government then took up the work and developed enough fissionable material to produce the first atomic bombs.

On August 20, 1945, shortly after the atomic bombs were dropped over Hiroshima and Nagasaki, Dr. Lawrence penned a letter to Weaver expressing his gratitude. He emphasized that the RF played a "vital part" in the bomb's development:

> "It was indeed the existence of the great magnet that made it seem possible that we might be able to get somewhere on the problem [of separating enough U-235] in time to be of value in this war.
>
> *Letter from Ernest O. Lawrence to Warren Weaver, August 20, 1945; RAC, RG 1.1, Series 205D*

The RF played a vital part in other ways, as well. A large number of the researchers who helped create the atomic bomb—23 in total—had received grants or fellowships from Rockefeller entities, including J. Robert Oppenheimer and Niels Bohr. Most of this support was granted in the 1920s and 1930s, when the RF was working to develop the field of theoretical physics; at the time, they could not have fathomed that it would be used to develop an atomic bomb.

Not all RF staff received the news of the RF's contributions enthusiastically. Fosdick, in particular, was devastated and disillusioned by the wartime experience; he admitted that he felt no pride in the RF's role in the bomb's development, and that his conscience was deeply troubled. Fosdick lamented that the United States had

> "legitimized the use of the atomic bomb as a weapon of war. We have made it respectable... We have given it our moral sanction"
>
> *Letter from Raymond B. Fosdick to Warren Weaver, August 29, 1945; RAC, RG 3.2, Series 900*

Weaver, on the other hand, saw the development of the bomb as a foregone conclusion, and that it was only a matter of whether the United States or another country would develop it first. He was less certain about whether the U.S. should have used the atomic bomb. But he returned to what he described as "the practical issues":

> "Did the atomic bomb shorten the war; did it save American and Japanese lives; does it constitute an irresistible compulsion for the world to organize itself into a decent and peaceful pattern? I think there is a better than even chance that the answers are all affirmative"
>
> *Letter from Warren Weaver to Raymond B. Fosdick, September 10, 1945; RAC, RG 3.2, Series 900*

Other RF staff weighed in as well. Vice President Thomas Appleget suggested that, given the Foundation's long history of funding science throughout the world, it was perhaps inevitable that the RF would play a role in the development of the bomb. The result, however, was that "now we share in the awful responsibility for the future use of atomic energy" (*Letter from Thomas B. Appleget to Raymond B. Fosdick, September 12, 1945; RAC, RG 1.1, Series 205.D*).

In the postwar period, the Foundation was much more cautious in its embrace of science. It turned instead to investing heavily in the social sciences and focusing on questions of postwar peace through international relations, foreign policy, and area studies programs.

In 1945, a $25,000 grant was made to a conference on the social implications of the atomic bomb. This was followed by additional grants to study American public opinion about the atomic bomb, and to study commercial atomic power.

The Division's program officers grappled with a question succinctly posed by Fosdick in his 1945 President's Review:

> "Can education and tolerance and understanding and creative intelligence run fast enough to keep us abreast with our own mounting capacity to destroy?... Science must help us in the answer, but the main decision lies within ourselves."
>
> *Rockefeller Foundation Annual Report 1945, p.10*

PRIMARY SOURCE WORKSHOP SUMMARY

> *This workshop was developed for Victoria Phillips' CUNY Graduate Center course, Soldiers, Scientists, Diplomats and Spies: Telling the Cold War through Biography and Memoir, in the spring 2025 semester.*

SUMMARY

This workshop takes 1 hour 30 minutes to complete.

Raymond B. Fosdick, President of the Rockefeller Foundation, and Warren Weaver, Director of the Division of Natural Sciences for the Rockefeller Foundation, were especially invested in the discussion about the development and use of the atomic bomb. In the selected archival documents, students will read grant records, correspondence, and studies related to discussion points that include the Rockefeller Foundation's role in the creation of the bomb, whether America should have built and used the bomb, and the impact doing so had on the future of the world.

The students will analyze the documents, engage in small group debate, and a whole-class discussion about the Rockefeller Foundation's role in the creation of the atomic bomb and whether as a Foundation leader they would have provided the funding that contributed to the development of the atomic bomb. The students should be encouraged to cite information from the primary source documents as evidence for their stance during the debate and discussion.

Note to instructor: This workshop can be adapted to an argumentative or persuasive essay format writing assignment.

PRIMARY SOURCE WORKSHOP PROCEDURE

PROCEDURE

Students are briefed on the historical context in which the documents are to be read.

Students are briefed on the selected primary source document guide.

Assuming the role of the Rockefeller Foundation leaders—in particular Raymond Fosdick and Warren Weaver—students independently close read the documents and decide if the RF should have funded the work that contributed to the development of the atomic bomb. The students should be encouraged to take notes during independent close reading.

Suggested guided questions:

> *Was this internal conversation and final decision really just about science?*
>
> *What were the ethical implications?*

After independently reading the documents, the students will debate their decisions in small groups.

Collectively, the class will discuss which decision was most necessary.

Follow-up questions can be discussed.

FOLLOW-UP DISCUSSION QUESTIONS

- Describe how your close read of the archival documents was affected knowing you were looking at these primary sources through the lens of foundation leaders making these decisions.
- What were your expectations going into the workshop?
- What experiences have you had working with primary sources before this workshop?
- How did the primary sources affect your interest or investment in the workshop?
- What was most challenging when articulating your arguments for and against funding the grant that contributed to the creation of the atomic bomb?

FOLLOW-UP DOCUMENTS FOR FURTHER READING

Proposed Program of Research on Public Reaction to Atomic Energy

(5 pages)

Cornell University - Atomic Bomb, 1946-1954; Rockefeller Foundation records; Projects (Grants) - Record Group 1; Subgroup 1.1; Series 100–257 - International and United States; United States - Series 200; Social Sciences - Subseries 200.S; Rockefeller Archive Center.

Studies of Public Opinion and Attitudes Toward the Atomic Bomb

(6 pages)

Cornell University - Atomic Bomb, 1946-1954; Rockefeller Foundation records; Projects (Grants) - Record Group 1; Subgroup 1.1; Series 100–257 - International and United States; United States - Series 200; Social Sciences - Subseries 200.S; Rockefeller Archive Center.

DOCUMENT GUIDE

1

The Atom Smashers Score a Hit
1939
Trustees Bulletins
Rockefeller Foundation records | Rockefeller Archive Center

2

Letter from Ernest O. Lawrence to Warren Weaver
October 14, 1937
Record Group 1 | Subgroup 1.1 | Series 205.D
Rockefeller Foundation records | Rockefeller Archive Center

3

Letter from Warren Weaver to Karl T. Compton
March 1, 1940
Record Group 1 | Subgroup 1.1 | Series 205.D
Rockefeller Foundation records | Rockefeller Archive Center

4

Cyclotron Grant
January 16, 1942
Record Group 1 | Subgroup 1.1 | Series 205.D
Rockefeller Foundation records | Rockefeller Archive Center

5

Grant from the Foundation to Cornell University Atomic Energy and the Citizen, *1948*
Record Group 1 | Subgroup 1.1 | Series 200.S
Rockefeller Foundation records | Rockefeller Archive Center

DOCUMENT GUIDE

6

Letter from Raymond B. Fosdick to Warren Weaver
August 29, 1945
Record Group 3 | Subgroup 3.2 | Series 900
Rockefeller Foundation records | Rockefeller Archive Center

7

Letter from David H. Stevens to Raymond B. Fosdick
August 30, 1945
Record Group 3 | Subgroup 3.2 | Series 900
Rockefeller Foundation records | Rockefeller Archive Center

8

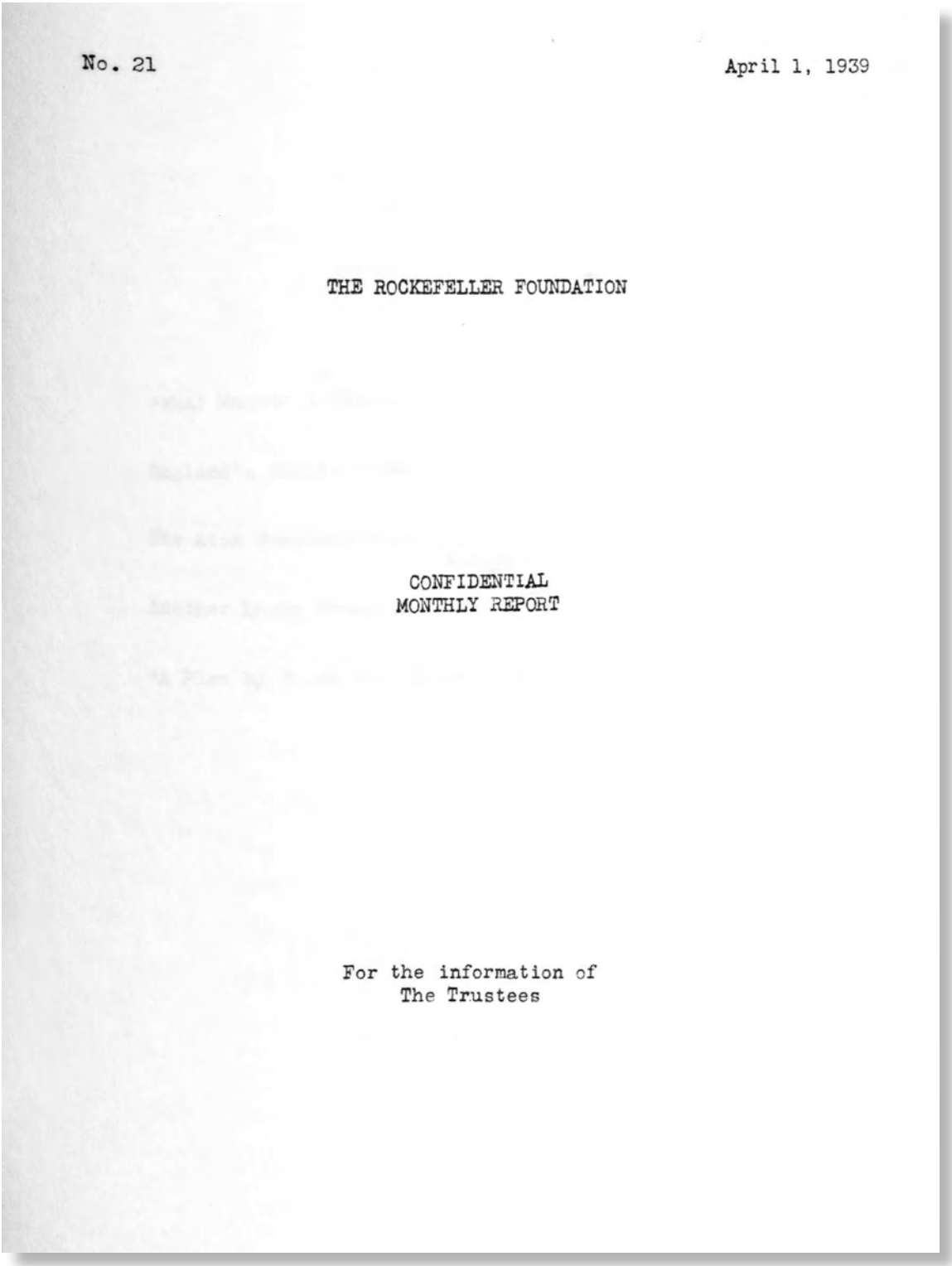
Letter from Warren Weaver to Raymond B. Fosdick
September 10, 1945
Record Group 3 | Subgroup 3.2 | Series 900
Rockefeller Foundation records | Rockefeller Archive Center

9

Letter from Ernest O. Lawrence to Raymond B. Fosdick
October 2, 1946
Record Group 1 | Subgroup 1.1 | Series 205.D
Rockefeller Foundation records | Rockefeller Archive Center

PRIMARY SOURCE

Document 1



No. 21

April 1, 1939

THE ROCKEFELLER FOUNDATION

CONFIDENTIAL
MONTHLY REPORT

For the information of
The Trustees

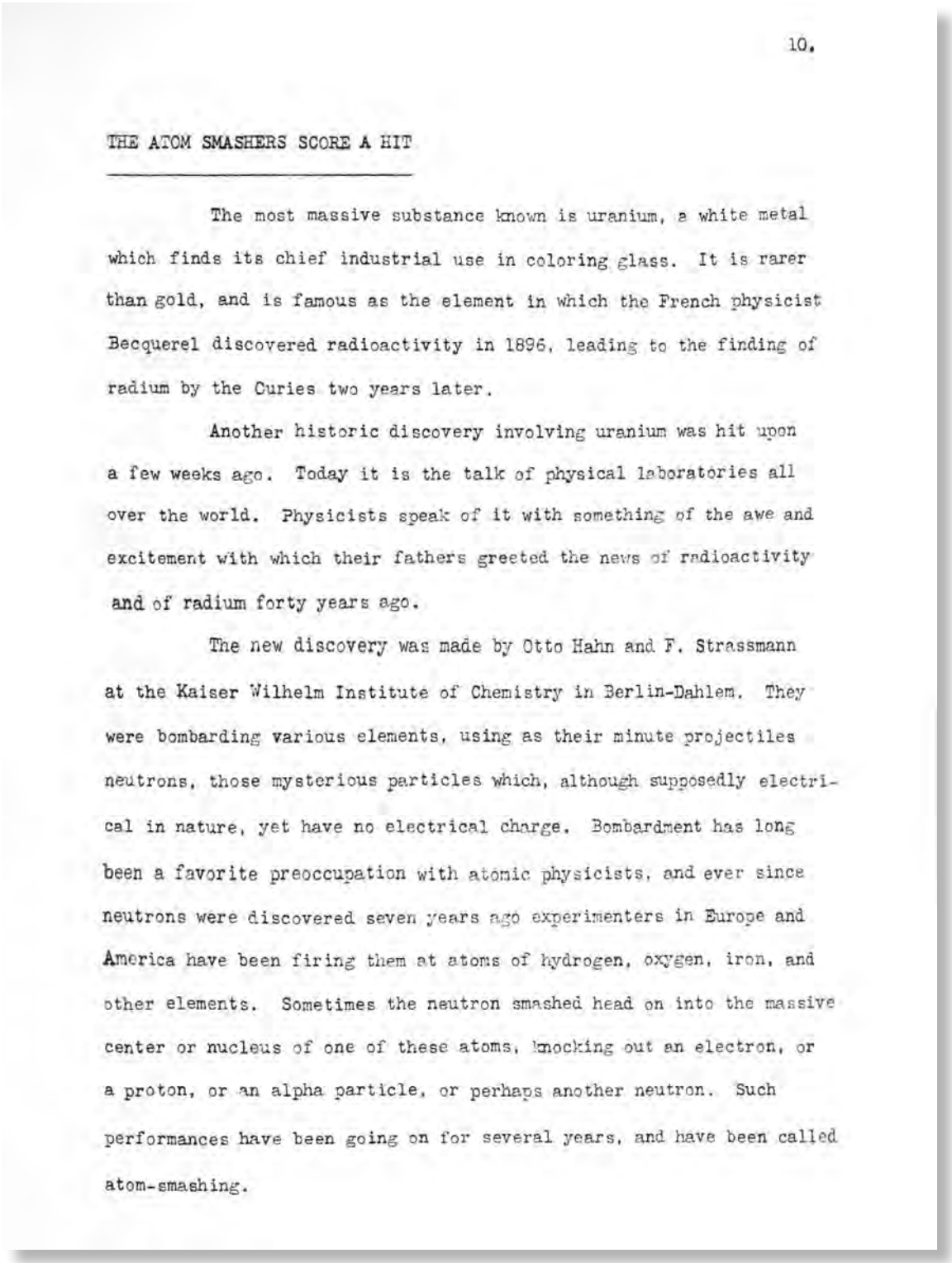
The Atom Smashers Score a Hit
1939

Trustees Bulletins, *1937-1939*

Rockefeller Foundation records; Trustees Bulletins; Rockefeller Archive Center.

PRIMARY SOURCE

Document 1 continued



10.

THE ATOM SMASHERS SCORE A HIT

The most massive substance known is uranium, a white metal which finds its chief industrial use in coloring glass. It is rarer than gold, and is famous as the element in which the French physicist Becquerel discovered radioactivity in 1896, leading to the finding of radium by the Curies two years later.

Another historic discovery involving uranium was hit upon a few weeks ago. Today it is the talk of physical laboratories all over the world. Physicists speak of it with something of the awe and excitement with which their fathers greeted the news of radioactivity and of radium forty years ago.

The new discovery was made by Otto Hahn and F. Strassmann at the Kaiser Wilhelm Institute of Chemistry in Berlin-Dahlem. They were bombarding various elements, using as their minute projectiles neutrons, those mysterious particles which, although supposedly electrical in nature, yet have no electrical charge. Bombardment has long been a favorite preoccupation with atomic physicists, and ever since neutrons were discovered seven years ago experimenters in Europe and America have been firing them at atoms of hydrogen, oxygen, iron, and other elements. Sometimes the neutron smashed head on into the massive center or nucleus of one of these atoms, knocking out an electron, or a proton, or an alpha particle, or perhaps another neutron. Such performances have been going on for several years, and have been called atom-smashing.

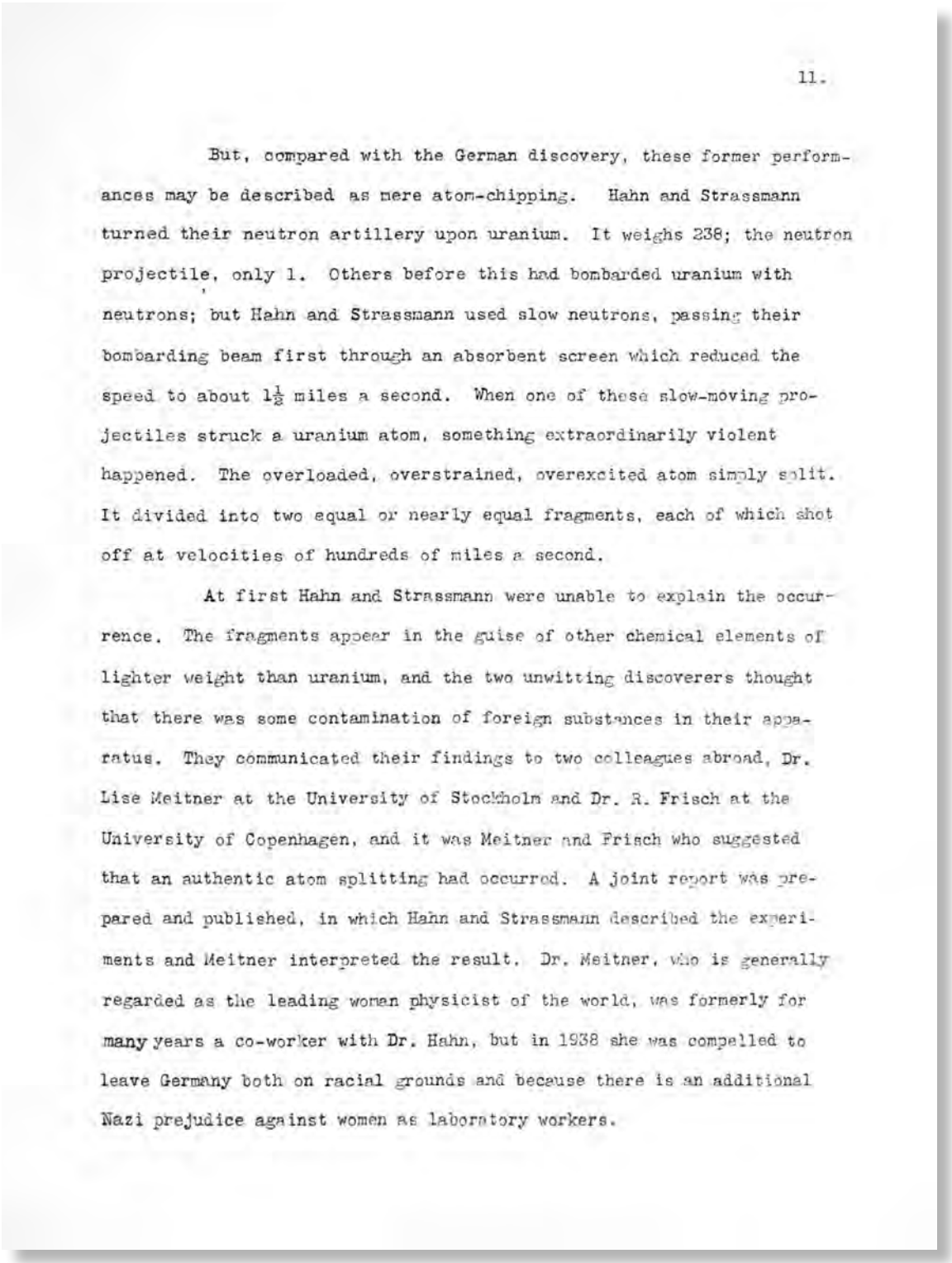
The Atom Smashers Score a Hit
1939

Trustees Bulletins, *1937-1939*

Rockefeller Foundation records; Trustees Bulletins; Rockefeller Archive Center.

PRIMARY SOURCE

Document 1 continued



11.

But, compared with the German discovery, these former performances may be described as mere atom-chipping. Hahn and Strassmann turned their neutron artillery upon uranium. It weighs 238; the neutron projectile, only 1. Others before this had bombarded uranium with neutrons; but Hahn and Strassmann used slow neutrons, passing their bombarding beam first through an absorbent screen which reduced the speed to about 1½ miles a second. When one of these slow-moving projectiles struck a uranium atom, something extraordinarily violent happened. The overloaded, overstrained, overexcited atom simply split. It divided into two equal or nearly equal fragments, each of which shot off at velocities of hundreds of miles a second.

At first Hahn and Strassmann were unable to explain the occurrence. The fragments appear in the guise of other chemical elements of lighter weight than uranium, and the two unwitting discoverers thought that there was some contamination of foreign substances in their apparatus. They communicated their findings to two colleagues abroad, Dr. Lise Meitner at the University of Stockholm and Dr. R. Frisch at the University of Copenhagen, and it was Meitner and Frisch who suggested that an authentic atom splitting had occurred. A joint report was prepared and published, in which Hahn and Strassmann described the experiments and Meitner interpreted the result. Dr. Meitner, who is generally regarded as the leading woman physicist of the world, was formerly for many years a co-worker with Dr. Hahn, but in 1938 she was compelled to leave Germany both on racial grounds and because there is an additional Nazi prejudice against women as laboratory workers.

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Trustees Bulletins, *1937-1939*

Rockefeller Foundation records; Trustees Bulletins; Rockefeller Archive Center.

PRIMARY SOURCE

Document 1 continued

The two fragments created by the splitting instantly move off, each with an energy of 100,000,000 volts. Thus a slow neutron, carrying an energy of only a thirtieth of a volt, sets off the enormous energy of 200,000,000 volts. This seeming paradox is explained by the picture of the massive atomic nucleus as a system in equilibrium, with the internal forces of positive electricity tending to burst it apart and the forces of surface tension just balancing. The impact of the slow neutron, slight though it be, is sufficient to set up ripples of disturbance in this delicately balanced equilibrium; and the final result is that the big nucleus, like a quivering drop of water, cleaves in two. The process has been called a "fission," and biologists will immediately be reminded of their long familiar use of this term in the fission of the living cell in growth.

Very promptly after the original discovery, confirmation of it was obtained at Niels Bohr's Institute of Theoretical Physics, Copenhagen, and at the Paris laboratory where Frederic Joliot is pursuing his studies of atomic phenomena. American groups at once took up the experiments - among them Lawrence's laboratory at Berkeley; Fermi, Dunning, and other associates at Columbia; Fowler at Johns Hopkins; Tuve and his associates at Washington.

Several of the individual scientists concerned have received Foundation aid or training, and four of the laboratories mentioned are at present receiving support; but these facts are not the sole reason for the inclusion of this particular story here. The Foundation's present program in the Natural Sciences places its primary emphasis on experimental biology, but the officers make every effort to keep in touch with

The Atom Smashers Score a Hit
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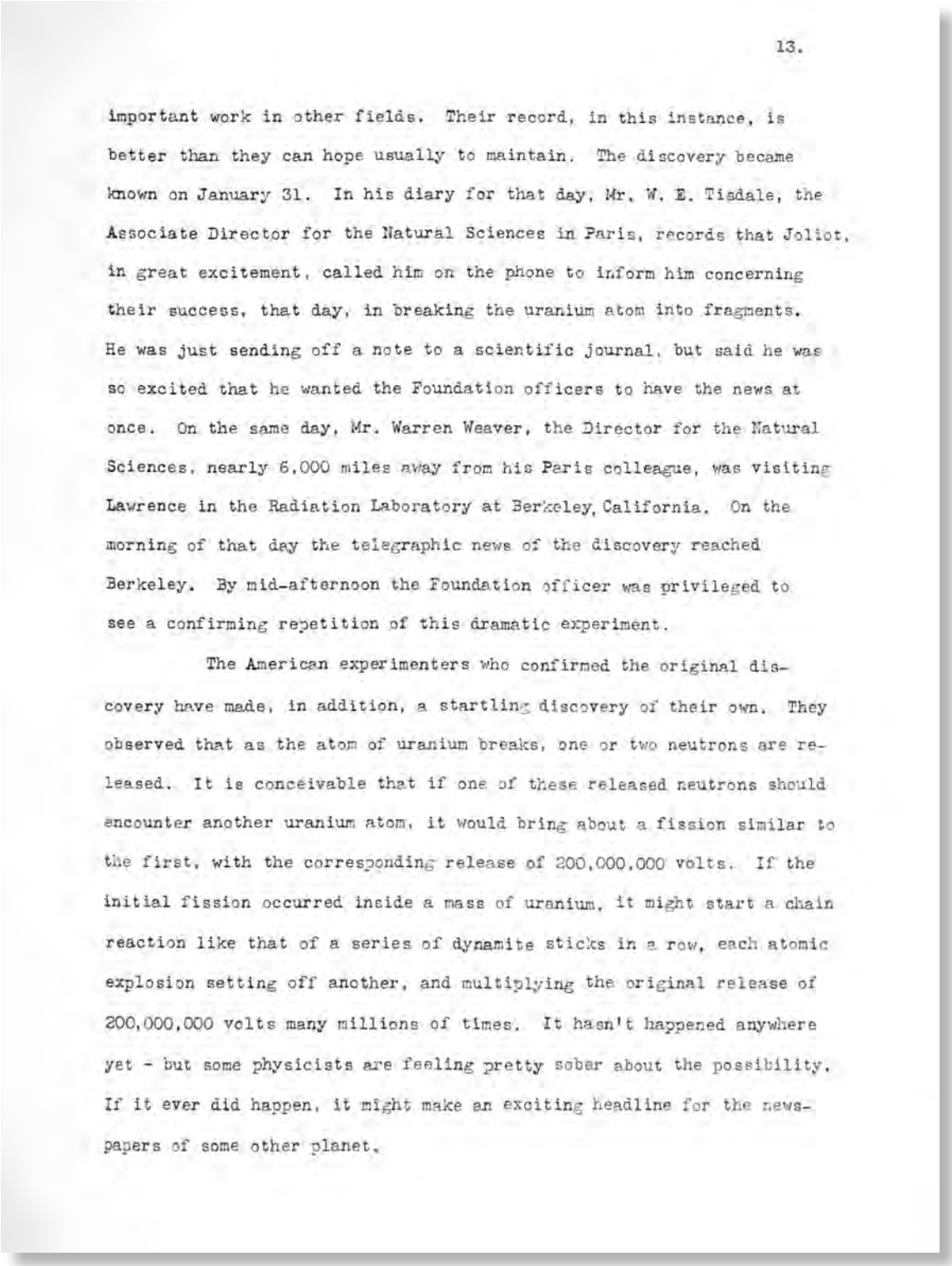
Trustees Bulletins, *1937-1939*

Rockefeller Foundation records; Trustees Bulletins; Rockefeller Archive Center.

PRIMARY SOURCE

Document 1 continued



13.

important work in other fields. Their record, in this instance, is better than they can hope usually to maintain. The discovery became known on January 31. In his diary for that day, Mr. W. E. Tisdale, the Associate Director for the Natural Sciences in Paris, records that Joliot, in great excitement, called him on the phone to inform him concerning their success, that day, in breaking the uranium atom into fragments. He was just sending off a note to a scientific journal, but said he was so excited that he wanted the Foundation officers to have the news at once. On the same day, Mr. Warren Weaver, the Director for the Natural Sciences, nearly 6,000 miles away from his Paris colleague, was visiting Lawrence in the Radiation Laboratory at Berkeley, California. On the morning of that day the telegraphic news of the discovery reached Berkeley. By mid-afternoon the Foundation officer was privileged to see a confirming repetition of this dramatic experiment.

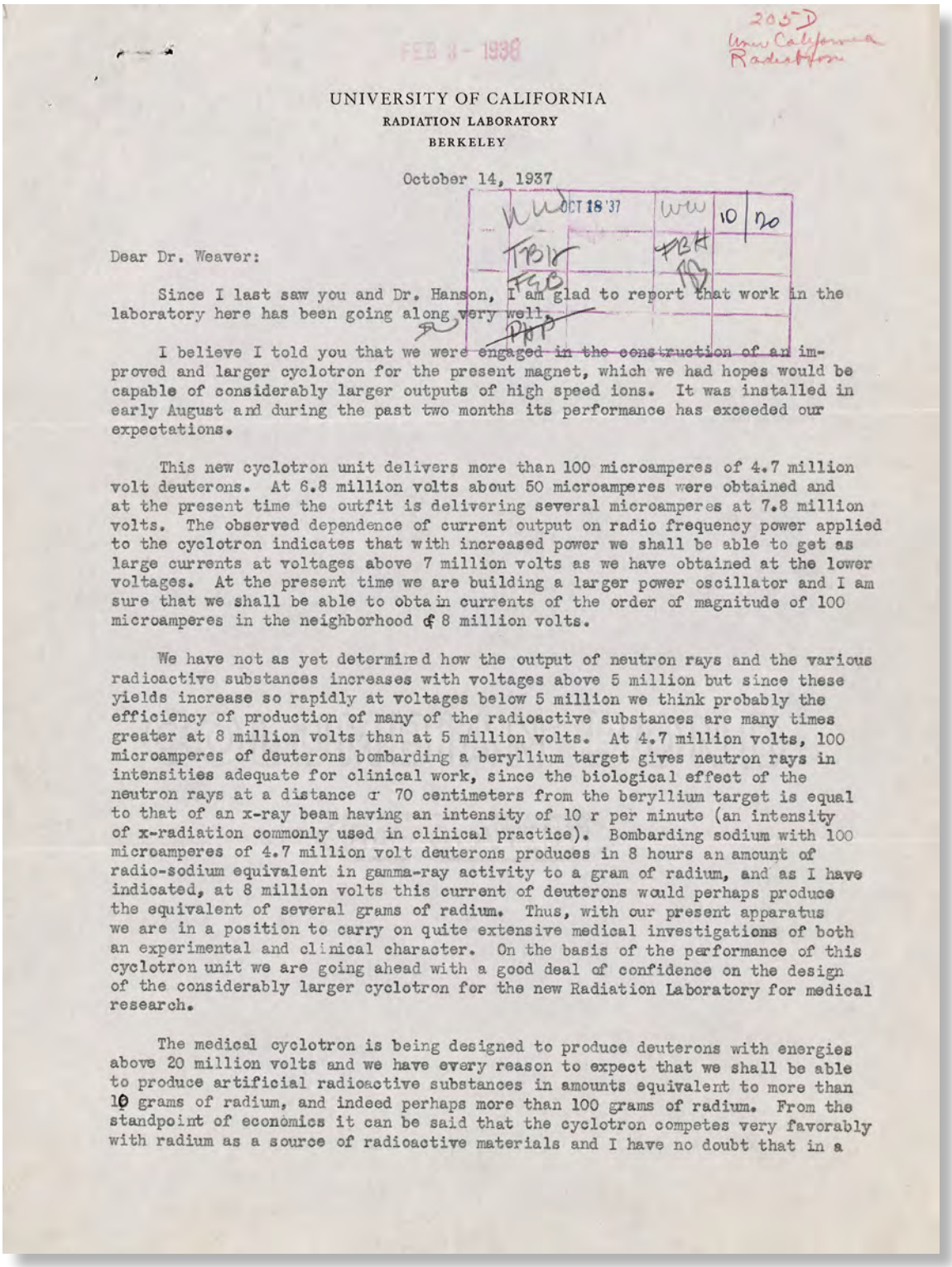
The American experimenters who confirmed the original discovery have made, in addition, a startling discovery of their own. They observed that as the atom of uranium breaks, one or two neutrons are released. It is conceivable that if one of these released neutrons should encounter another uranium atom, it would bring about a fission similar to the first, with the corresponding release of 200,000,000 volts. If the initial fission occurred inside a mass of uranium, it might start a chain reaction like that of a series of dynamite sticks in a row, each atomic explosion setting off another, and multiplying the original release of 200,000,000 volts many millions of times. It hasn't happened anywhere yet - but some physicists are feeling pretty sober about the possibility. If it ever did happen, it might make an exciting headline for the newspapers of some other planet.

The Atom Smashers Score a Hit
1939

Trustees Bulletins, *1937-1939*

Rockefeller Foundation records; Trustees Bulletins; Rockefeller Archive Center.

PRIMARY SOURCE
Document 2



205-D
Univ California
Radiation

FEB 3 - 1938

UNIVERSITY OF CALIFORNIA
RADIATION LABORATORY
BERKELEY

October 14, 1937

OCT 18 '37

Dear Dr. Weaver:

Since I last saw you and Dr. Hanson, I am glad to report that work in the laboratory here has been going along very well.

I believe I told you that we were engaged in the construction of an improved and larger cyclotron for the present magnet, which we had hopes would be capable of considerably larger outputs of high speed ions. It was installed in early August and during the past two months its performance has exceeded our expectations.

This new cyclotron unit delivers more than 100 microamperes of 4.7 million volt deuterons. At 6.8 million volts about 50 microamperes were obtained and at the present time the outfit is delivering several microamperes at 7.8 million volts. The observed dependence of current output on radio frequency power applied to the cyclotron indicates that with increased power we shall be able to get as large currents at voltages above 7 million volts as we have obtained at the lower voltages. At the present time we are building a larger power oscillator and I am sure that we shall be able to obtain currents of the order of magnitude of 100 microamperes in the neighborhood of 8 million volts.

We have not as yet determined how the output of neutron rays and the various radioactive substances increases with voltages above 5 million but since these yields increase so rapidly at voltages below 5 million we think probably the efficiency of production of many of the radioactive substances are many times greater at 8 million volts than at 5 million volts. At 4.7 million volts, 100 microamperes of deuterons bombarding a beryllium target gives neutron rays in intensities adequate for clinical work, since the biological effect of the neutron rays at a distance of 70 centimeters from the beryllium target is equal to that of an x-ray beam having an intensity of 10 r per minute (an intensity of x-radiation commonly used in clinical practice). Bombarding sodium with 100 microamperes of 4.7 million volt deuterons produces in 8 hours an amount of radio-sodium equivalent in gamma-ray activity to a gram of radium, and as I have indicated, at 8 million volts this current of deuterons would perhaps produce the equivalent of several grams of radium. Thus, with our present apparatus we are in a position to carry on quite extensive medical investigations of both an experimental and clinical character. On the basis of the performance of this cyclotron unit we are going ahead with a good deal of confidence on the design of the considerably larger cyclotron for the new Radiation Laboratory for medical research.

The medical cyclotron is being designed to produce deuterons with energies above 20 million volts and we have every reason to expect that we shall be able to produce artificial radioactive substances in amounts equivalent to more than 10 grams of radium, and indeed perhaps more than 100 grams of radium. From the standpoint of economics it can be said that the cyclotron competes very favorably with radium as a source of radioactive materials and I have no doubt that in a

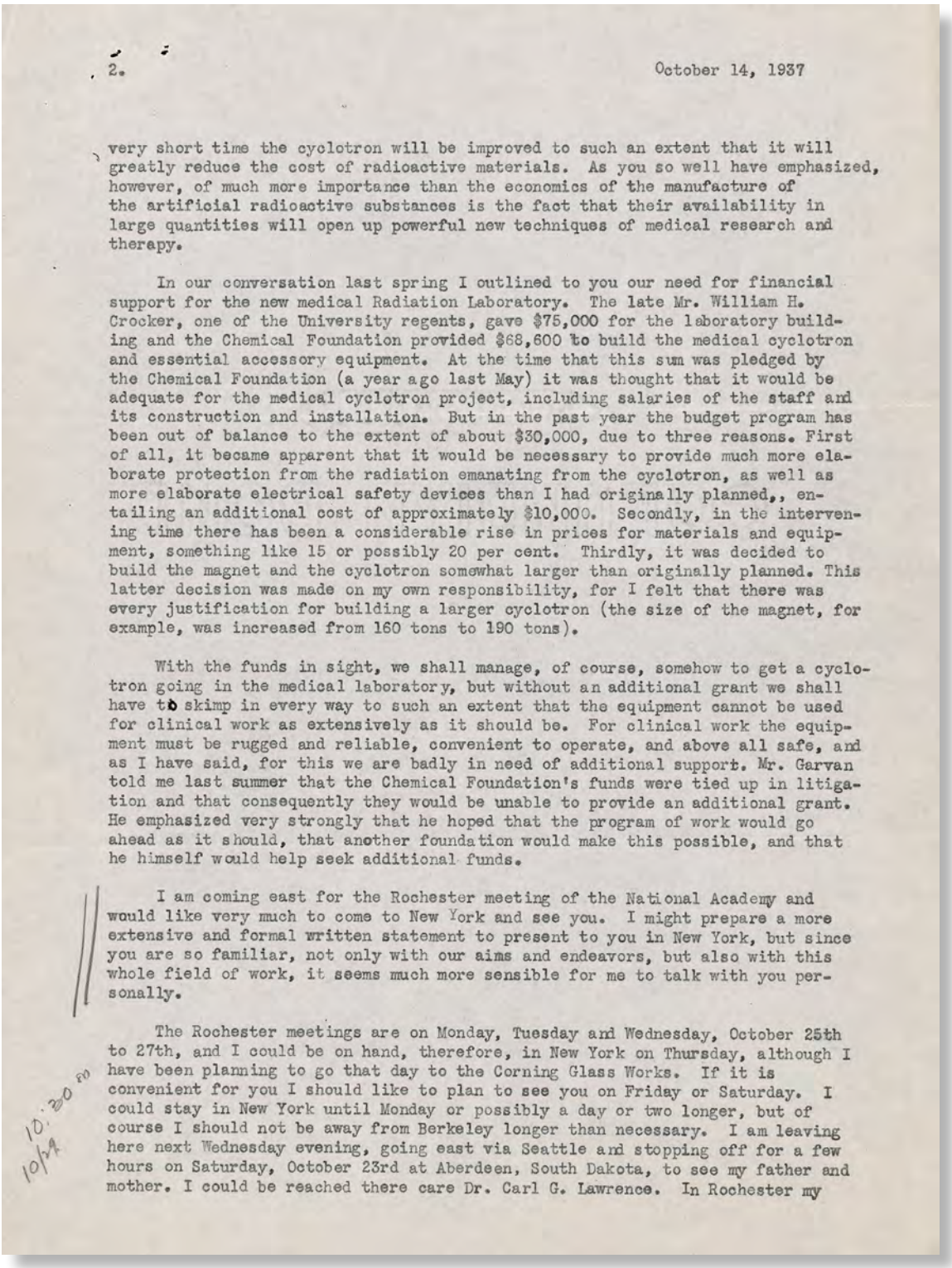
Letter from Ernest O. Lawrence
to Warren Weaver
October 14, 1937

University of California - Radiation, *March 1940–1950*

Rockefeller Foundation records; Projects (Grants) - Record Group 1; Subgroup 1.1; Series 100–257 - International and the United States; California - Series 205; National Sciences and Agriculture - Subseries 205.D; Rockefeller Archive Center.

PRIMARY SOURCE

Document 2 continued



2. October 14, 1937

very short time the cyclotron will be improved to such an extent that it will greatly reduce the cost of radioactive materials. As you so well have emphasized, however, of much more importance than the economics of the manufacture of the artificial radioactive substances is the fact that their availability in large quantities will open up powerful new techniques of medical research and therapy.

In our conversation last spring I outlined to you our need for financial support for the new medical Radiation Laboratory. The late Mr. William H. Crocker, one of the University regents, gave $75,000 for the laboratory building and the Chemical Foundation provided $68,600 to build the medical cyclotron and essential accessory equipment. At the time that this sum was pledged by the Chemical Foundation (a year ago last May) it was thought that it would be adequate for the medical cyclotron project, including salaries of the staff and its construction and installation. But in the past year the budget program has been out of balance to the extent of about $30,000, due to three reasons. First of all, it became apparent that it would be necessary to provide much more elaborate protection from the radiation emanating from the cyclotron, as well as more elaborate electrical safety devices than I had originally planned,, entailing an additional cost of approximately $10,000. Secondly, in the intervening time there has been a considerable rise in prices for materials and equipment, something like 15 or possibly 20 per cent. Thirdly, it was decided to build the magnet and the cyclotron somewhat larger than originally planned. This latter decision was made on my own responsibility, for I felt that there was every justification for building a larger cyclotron (the size of the magnet, for example, was increased from 160 tons to 190 tons).

With the funds in sight, we shall manage, of course, somehow to get a cyclotron going in the medical laboratory, but without an additional grant we shall have to skimp in every way to such an extent that the equipment cannot be used for clinical work as extensively as it should be. For clinical work the equipment must be rugged and reliable, convenient to operate, and above all safe, and as I have said, for this we are badly in need of additional support. Mr. Garvan told me last summer that the Chemical Foundation's funds were tied up in litigation and that consequently they would be unable to provide an additional grant. He emphasized very strongly that he hoped that the program of work would go ahead as it should, that another foundation would make this possible, and that he himself would help seek additional funds.

I am coming east for the Rochester meeting of the National Academy and would like very much to come to New York and see you. I might prepare a more extensive and formal written statement to present to you in New York, but since you are so familiar, not only with our aims and endeavors, but also with this whole field of work, it seems much more sensible for me to talk with you personally.

The Rochester meetings are on Monday, Tuesday and Wednesday, October 25th to 27th, and I could be on hand, therefore, in New York on Thursday, although I have been planning to go that day to the Corning Glass Works. If it is convenient for you I should like to plan to see you on Friday or Saturday. I could stay in New York until Monday or possibly a day or two longer, but of course I should not be away from Berkeley longer than necessary. I am leaving here next Wednesday evening, going east via Seattle and stopping off for a few hours on Saturday, October 23rd at Aberdeen, South Dakota, to see my father and mother. I could be reached there care Dr. Carl G. Lawrence. In Rochester my

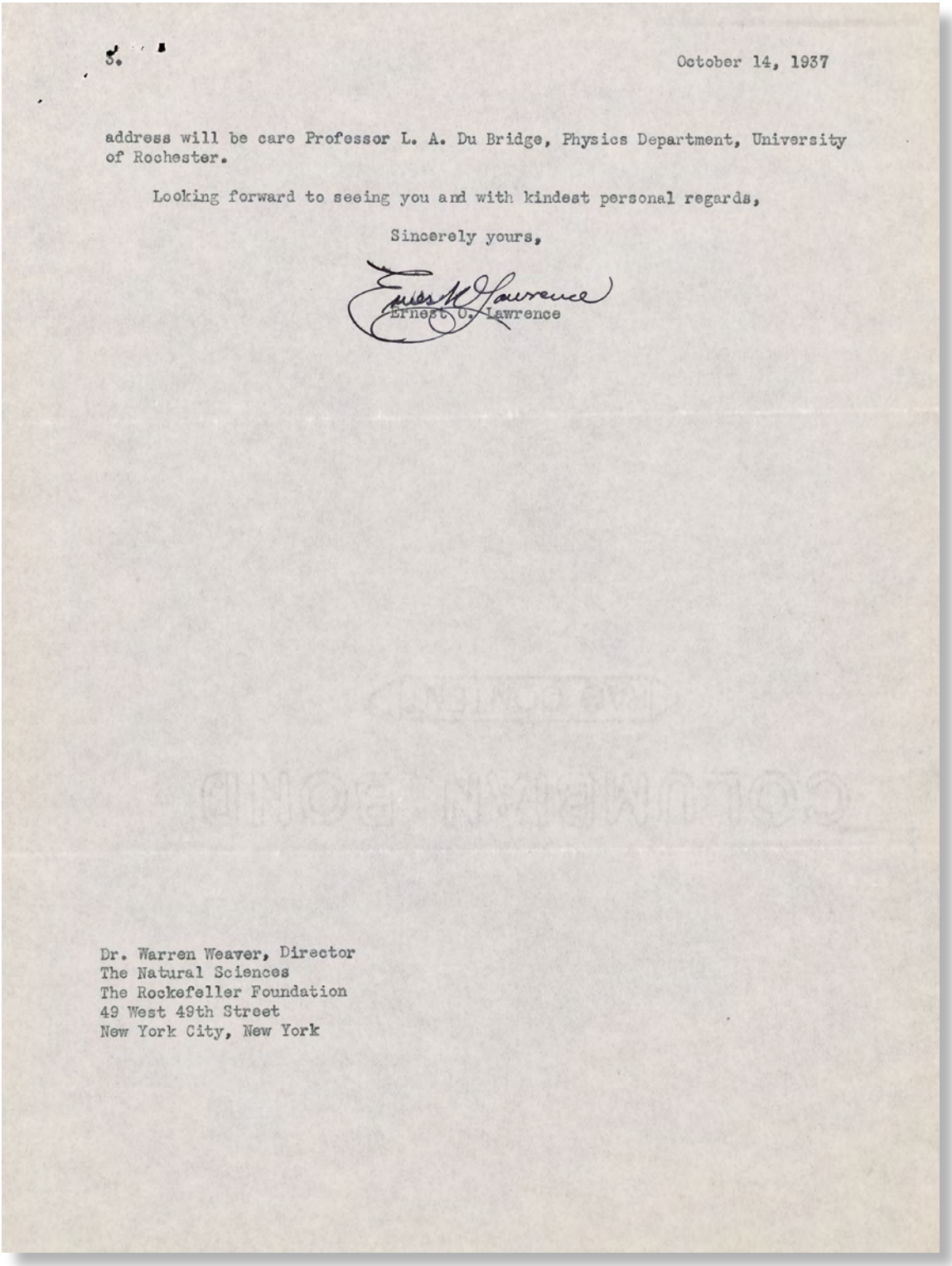
Letter from Ernest O. Lawrence to Warren Weaver
October 14, 1937

University of California - Radiation, *March 1940–1950*

Rockefeller Foundation records; Projects (Grants) - Record Group 1; Subgroup 1.1; Series 100–257 - International and the United States; California - Series 205; National Sciences and Agriculture - Subseries 205.D; Rockefeller Archive Center.

PRIMARY SOURCE

Document 2 continued



October 14, 1937

address will be care Professor L. A. Du Bridge, Physics Department, University of Rochester.

Looking forward to seeing you and with kindest personal regards,

Sincerely yours,

Ernest O. Lawrence

Dr. Warren Weaver, Director
The Natural Sciences
The Rockefeller Foundation
49 West 49th Street
New York City, New York

Letter from Ernest O. Lawrence to Warren Weaver
October 14, 1937

University of California - Radiation, *March 1940–1950*

Rockefeller Foundation records; Projects (Grants) - Record Group 1; Subgroup 1.1; Series 100–257 - International and the United States; California - Series 205; National Sciences and Agriculture - Subseries 205.D; Rockefeller Archive Center.

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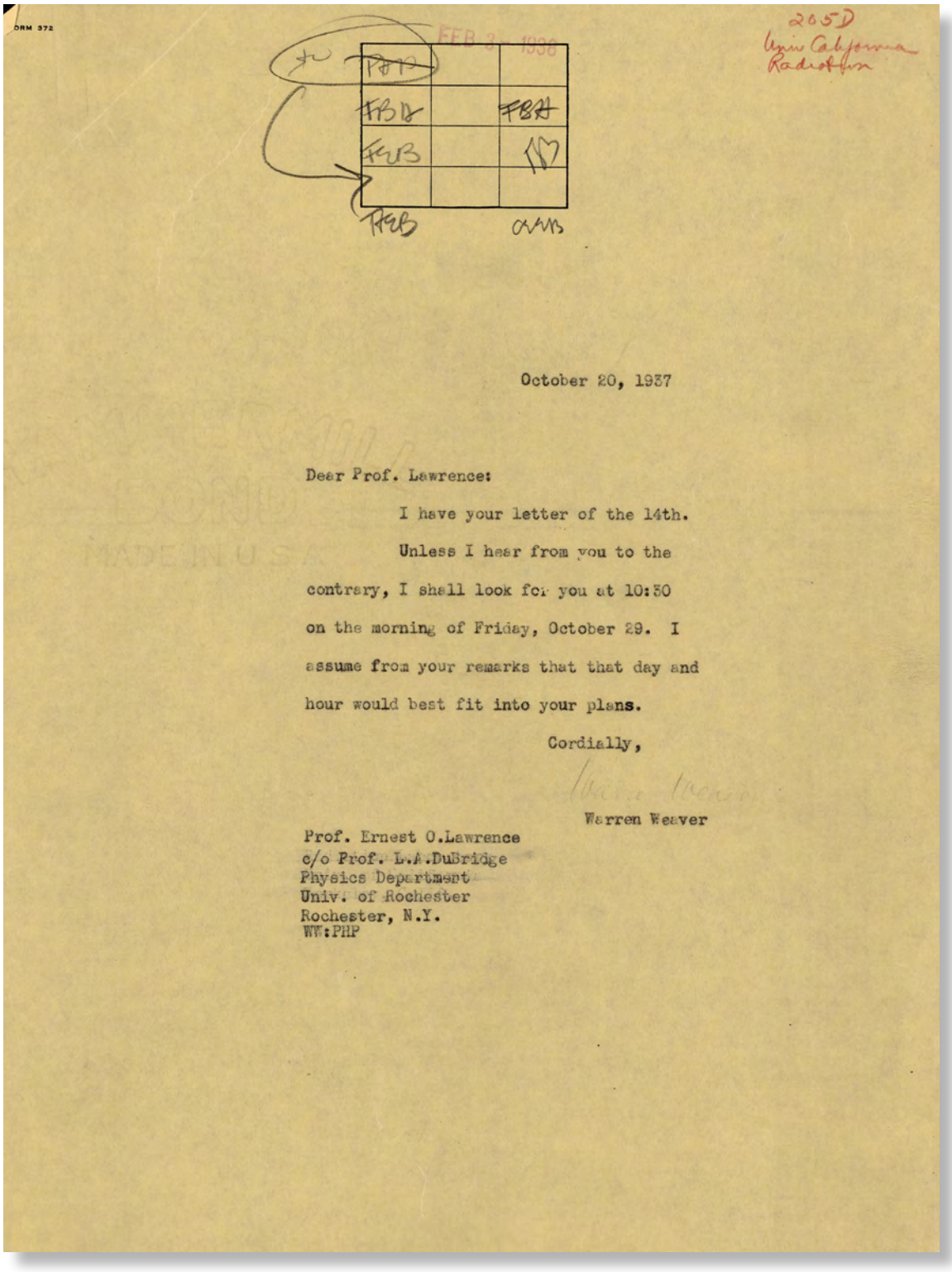


205D
Univ California
Radiation

October 20, 1937

Dear Prof. Lawrence:

I have your letter of the 14th.

Unless I hear from you to the contrary, I shall look for you at 10:30 on the morning of Friday, October 29. I assume from your remarks that that day and hour would best fit into your plans.

Cordially,

Warren Weaver

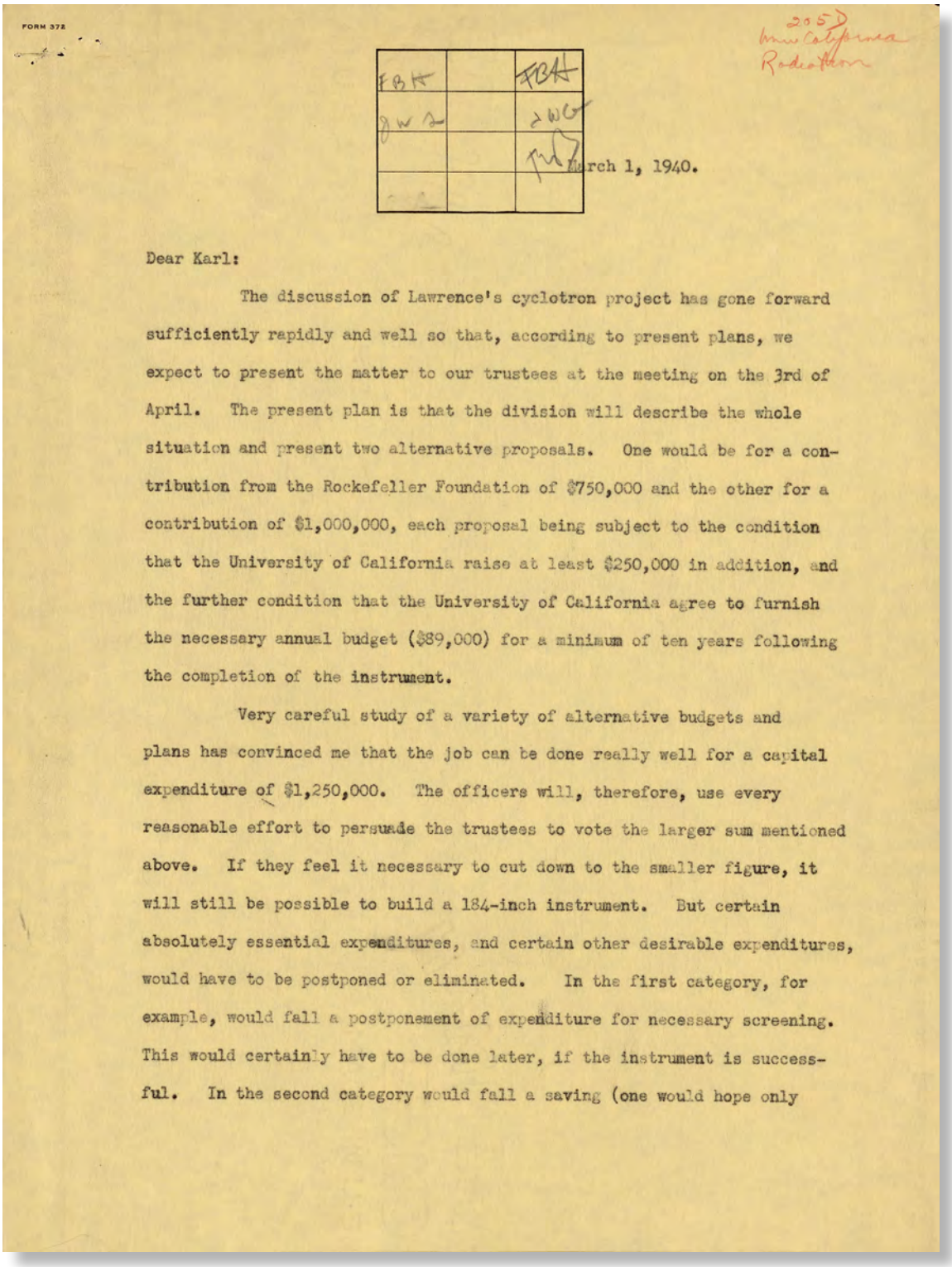
Prof. Ernest O.Lawrence
c/o Prof. L.A.DuBridge
Physics Department
Univ. of Rochester
Rochester, N.Y.
WW:PHP

Letter from Ernest O. Lawrence to Warren Weaver
October 14, 1937

University of California - Radiation, *March 1940–1950*

Rockefeller Foundation records; Projects (Grants) - Record Group 1; Subgroup 1.1; Series 100–257 - International and the United States; California - Series 205; National Sciences and Agriculture - Subseries 205.D; Rockefeller Archive Center.

PRIMARY SOURCE
Document 3



FORM 372

205 D
Univ California
Radiation

March 1, 1940.

Dear Karl:

The discussion of Lawrence's cyclotron project has gone forward sufficiently rapidly and well so that, according to present plans, we expect to present the matter to our trustees at the meeting on the 3rd of April. The present plan is that the division will describe the whole situation and present two alternative proposals. One would be for a contribution from the Rockefeller Foundation of $750,000 and the other for a contribution of $1,000,000, each proposal being subject to the condition that the University of California raise at least $250,000 in addition, and the further condition that the University of California agree to furnish the necessary annual budget ($89,000) for a minimum of ten years following the completion of the instrument.

Very careful study of a variety of alternative budgets and plans has convinced me that the job can be done really well for a capital expenditure of $1,250,000. The officers will, therefore, use every reasonable effort to persuade the trustees to vote the larger sum mentioned above. If they feel it necessary to cut down to the smaller figure, it will still be possible to build a 184-inch instrument. But certain absolutely essential expenditures, and certain other desirable expenditures, would have to be postponed or eliminated. In the first category, for example, would fall a postponement of expenditure for necessary screening. This would certainly have to be done later, if the instrument is successful. In the second category would fall a saving (one would hope only

Letter from Warren Weaver
to Karl T. Compton
March 1, 1940

University of California - Radiation, *March 1940–1950*

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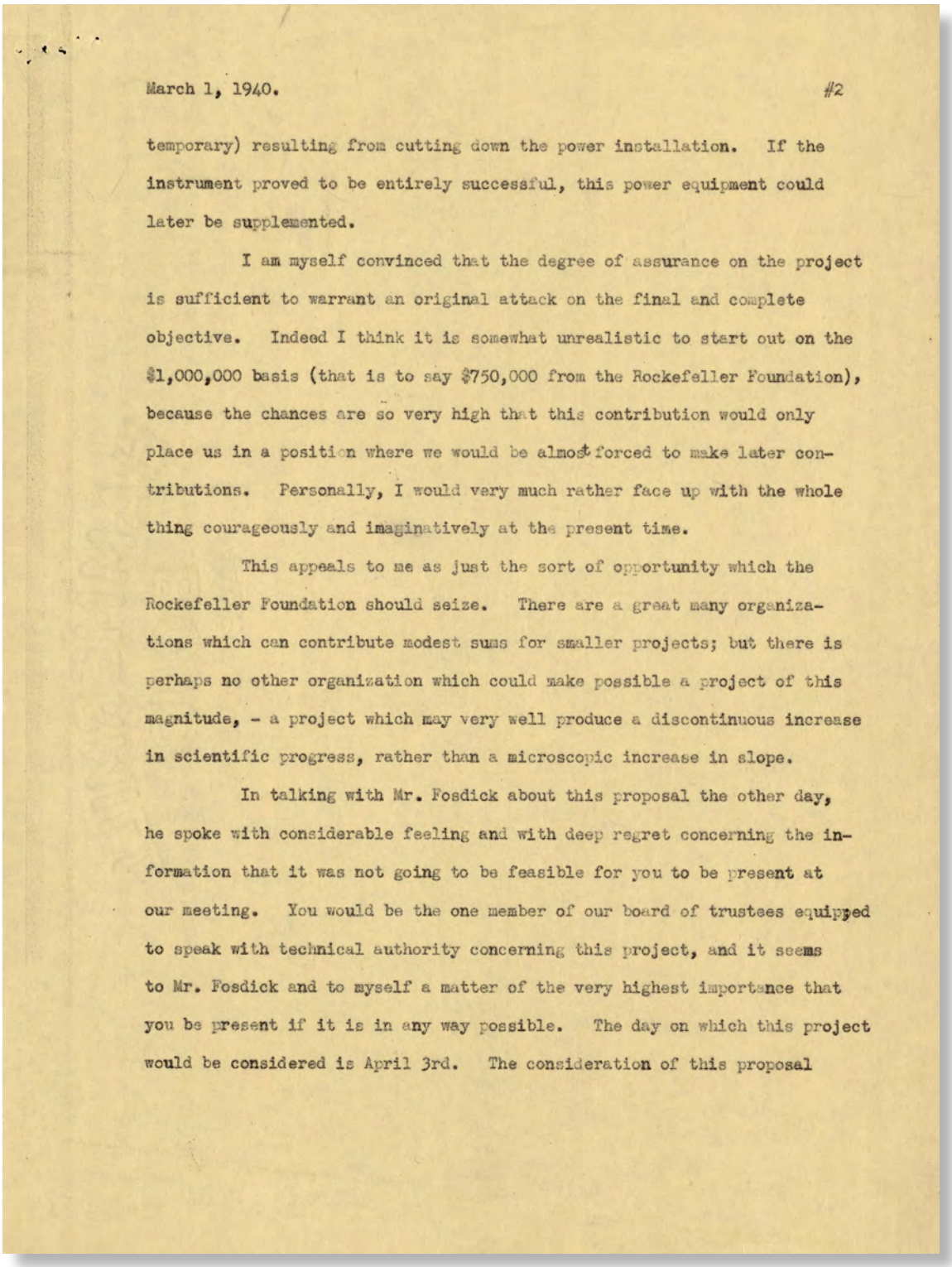

March 1, 1940. #2

temporary) resulting from cutting down the power installation. If the instrument proved to be entirely successful, this power equipment could later be supplemented.

I am myself convinced that the degree of assurance on the project is sufficient to warrant an original attack on the final and complete objective. Indeed I think it is somewhat unrealistic to start out on the $1,000,000 basis (that is to say $750,000 from the Rockefeller Foundation), because the chances are so very high that this contribution would only place us in a position where we would be almost forced to make later contributions. Personally, I would very much rather face up with the whole thing courageously and imaginatively at the present time.

This appeals to me as just the sort of opportunity which the Rockefeller Foundation should seize. There are a great many organizations which can contribute modest sums for smaller projects; but there is perhaps no other organization which could make possible a project of this magnitude, - a project which may very well produce a discontinuous increase in scientific progress, rather than a microscopic increase in slope.

In talking with Mr. Fosdick about this proposal the other day, he spoke with considerable feeling and with deep regret concerning the information that it was not going to be feasible for you to be present at our meeting. You would be the one member of our board of trustees equipped to speak with technical authority concerning this project, and it seems to Mr. Fosdick and to myself a matter of the very highest importance that you be present if it is in any way possible. The day on which this project would be considered is April 3rd. The consideration of this proposal

Letter from Warren Weaver
to Karl T. Compton
March 1, 1940

University of California - Radiation, *March 1940–1950*

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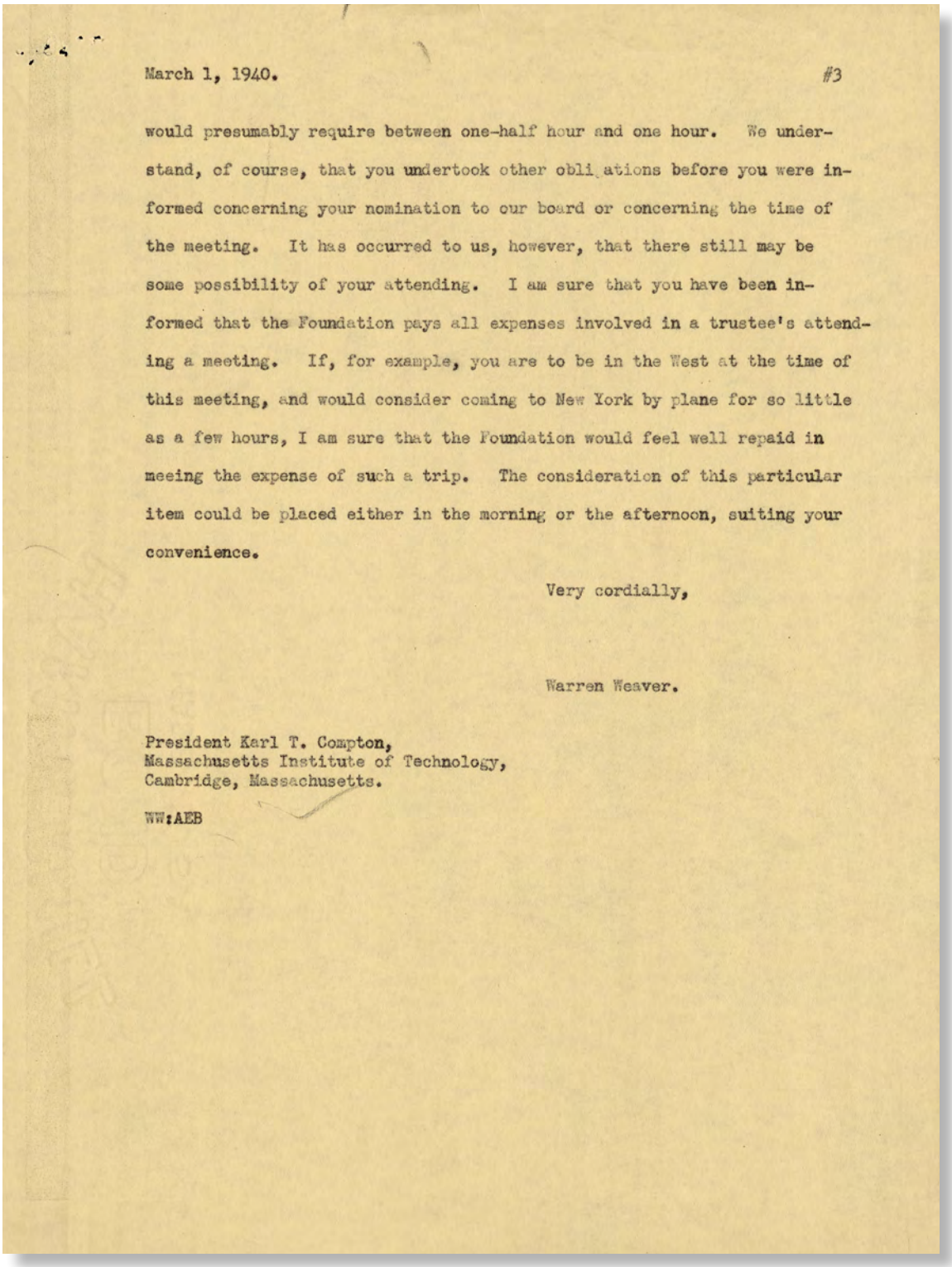

March 1, 1940. #3

would presumably require between one-half hour and one hour. We understand, of course, that you undertook other obligations before you were informed concerning your nomination to our board or concerning the time of the meeting. It has occurred to us, however, that there still may be some possibility of your attending. I am sure that you have been informed that the Foundation pays all expenses involved in a trustee's attending a meeting. If, for example, you are to be in the West at the time of this meeting, and would consider coming to New York by plane for so little as a few hours, I am sure that the Foundation would feel well repaid in meeing the expense of such a trip. The consideration of this particular item could be placed either in the morning or the afternoon, suiting your convenience.

Very cordially,

Warren Weaver.

President Karl T. Compton,
Massachusetts Institute of Technology,
Cambridge, Massachusetts.

WW:AEB

Letter from Warren Weaver
to Karl T. Compton
March 1, 1940

University of California - Radiation, *March 1940–1950*

Rockefeller Foundation records; Projects (Grants) - Record Group 1; Subgroup 1.1; Series 100–257 - International and the United States; California - Series 205; National Sciences and Agriculture - Subseries 205.D; Rockefeller Archive Center.

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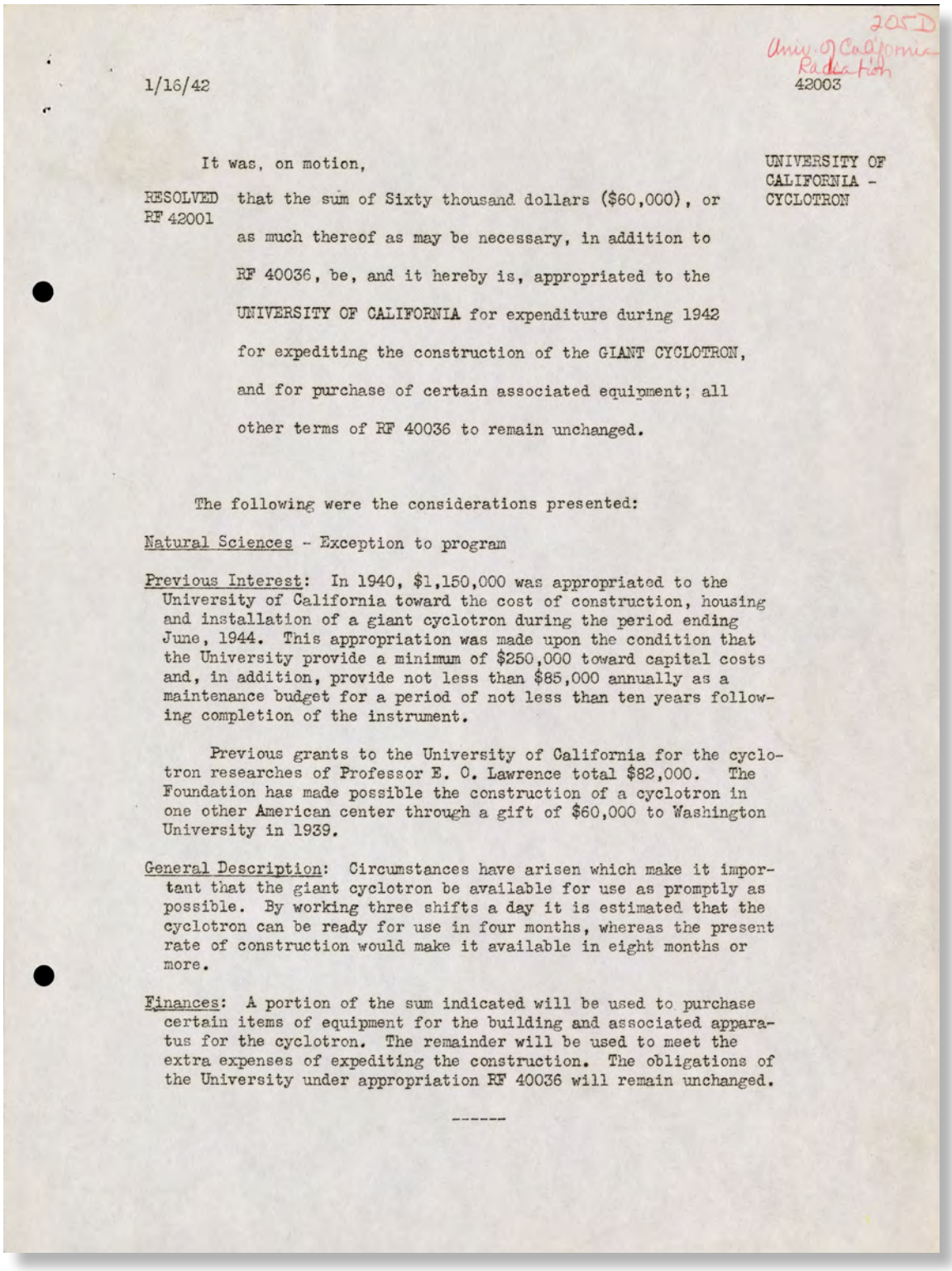

205D
Univ. of California
Radiation
42003

1/16/42

UNIVERSITY OF CALIFORNIA - CYCLOTRON

It was, on motion,

RESOLVED that the sum of Sixty thousand dollars ($60,000), or RF 42001 as much thereof as may be necessary, in addition to RF 40036, be, and it hereby is, appropriated to the UNIVERSITY OF CALIFORNIA for expenditure during 1942 for expediting the construction of the GIANT CYCLOTRON, and for purchase of certain associated equipment; all other terms of RF 40036 to remain unchanged.

The following were the considerations presented:

Natural Sciences - Exception to program

Previous Interest: In 1940, $1,150,000 was appropriated to the University of California toward the cost of construction, housing and installation of a giant cyclotron during the period ending June, 1944. This appropriation was made upon the condition that the University provide a minimum of $250,000 toward capital costs and, in addition, provide not less than $85,000 annually as a maintenance budget for a period of not less than ten years following completion of the instrument.

Previous grants to the University of California for the cyclotron researches of Professor E. O. Lawrence total $82,000. The Foundation has made possible the construction of a cyclotron in one other American center through a gift of $60,000 to Washington University in 1939.

General Description: Circumstances have arisen which make it important that the giant cyclotron be available for use as promptly as possible. By working three shifts a day it is estimated that the cyclotron can be ready for use in four months, whereas the present rate of construction would make it available in eight months or more.

Finances: A portion of the sum indicated will be used to purchase certain items of equipment for the building and associated apparatus for the cyclotron. The remainder will be used to meet the extra expenses of expediting the construction. The obligations of the University under appropriation RF 40036 will remain unchanged.

Cyclotron Grant
March 1, 1940

University of California - Radiation, *March 1940–1950*

Rockefeller Foundation records; Projects (Grants) - Record Group 1; Subgroup 1.1; Series 100–257 - International and the United States; California - Series 205; National Sciences and Agriculture - Subseries 205.D; Rockefeller Archive Center.

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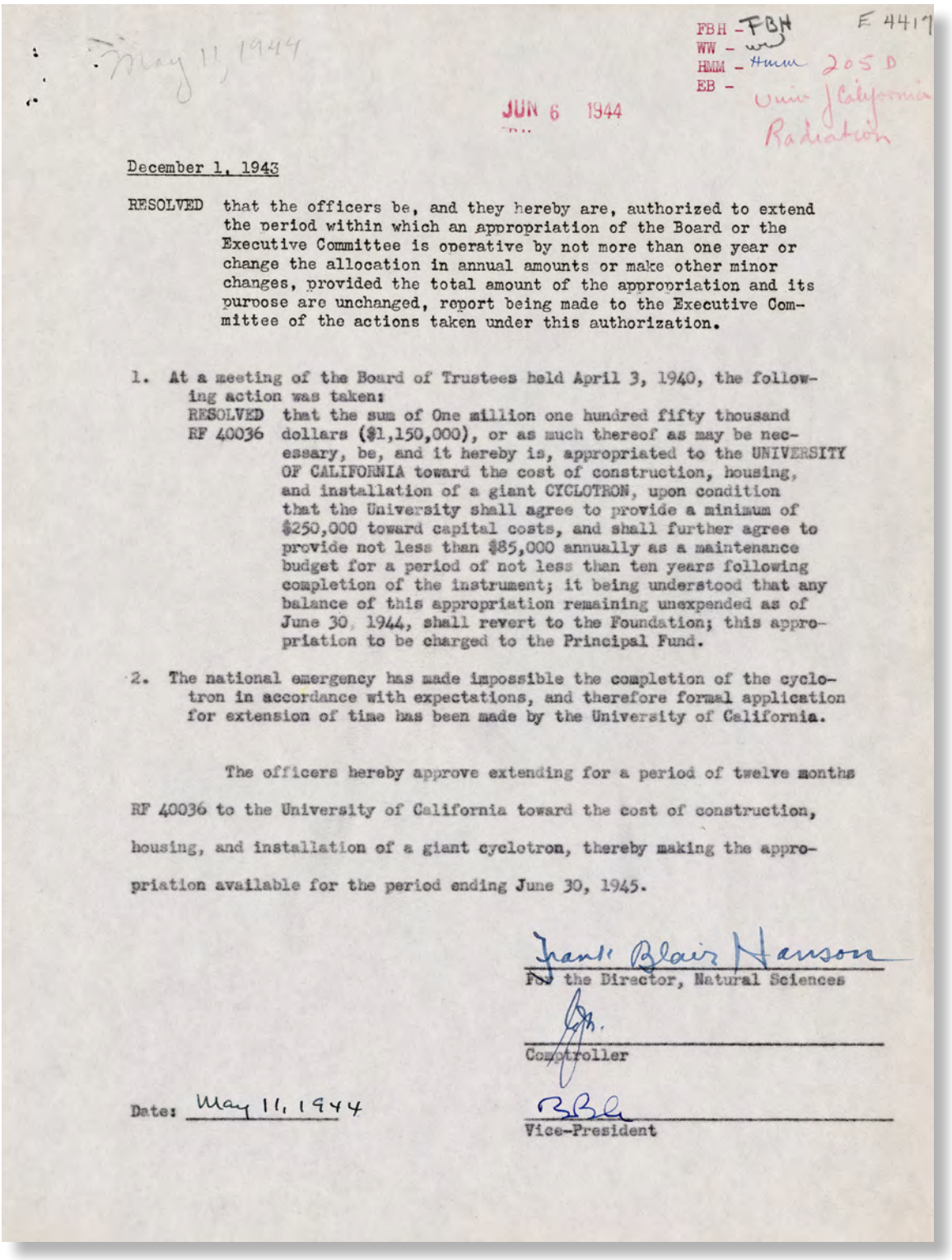

May 11, 1944

FBH - FBH
WW - ww
HMM - Hmm
EB -

E 4417
205 D
Univ. California
Radiation

JUN 6 1944

December 1, 1943

RESOLVED that the officers be, and they hereby are, authorized to extend the period within which an appropriation of the Board or the Executive Committee is operative by not more than one year or change the allocation in annual amounts or make other minor changes, provided the total amount of the appropriation and its purpose are unchanged, report being made to the Executive Committee of the actions taken under this authorization.

1. At a meeting of the Board of Trustees held April 3, 1940, the following action was taken:
   RESOLVED that the sum of One million one hundred fifty thousand
   RF 40036 dollars ($1,150,000), or as much thereof as may be necessary, be, and it hereby is, appropriated to the UNIVERSITY OF CALIFORNIA toward the cost of construction, housing, and installation of a giant CYCLOTRON, upon condition that the University shall agree to provide a minimum of $250,000 toward capital costs, and shall further agree to provide not less than $85,000 annually as a maintenance budget for a period of not less than ten years following completion of the instrument; it being understood that any balance of this appropriation remaining unexpended as of June 30, 1944, shall revert to the Foundation; this appropriation to be charged to the Principal Fund.

2. The national emergency has made impossible the completion of the cyclotron in accordance with expectations, and therefore formal application for extension of time has been made by the University of California.

The officers hereby approve extending for a period of twelve months RF 40036 to the University of California toward the cost of construction, housing, and installation of a giant cyclotron, thereby making the appropriation available for the period ending June 30, 1945.

Frank Blair Hanson
For the Director, Natural Sciences

Comptroller

Date: May 11, 1944

Vice-President

Cyclotron Grant
March 1, 1940

University of California - Radiation, *March 1940–1950*

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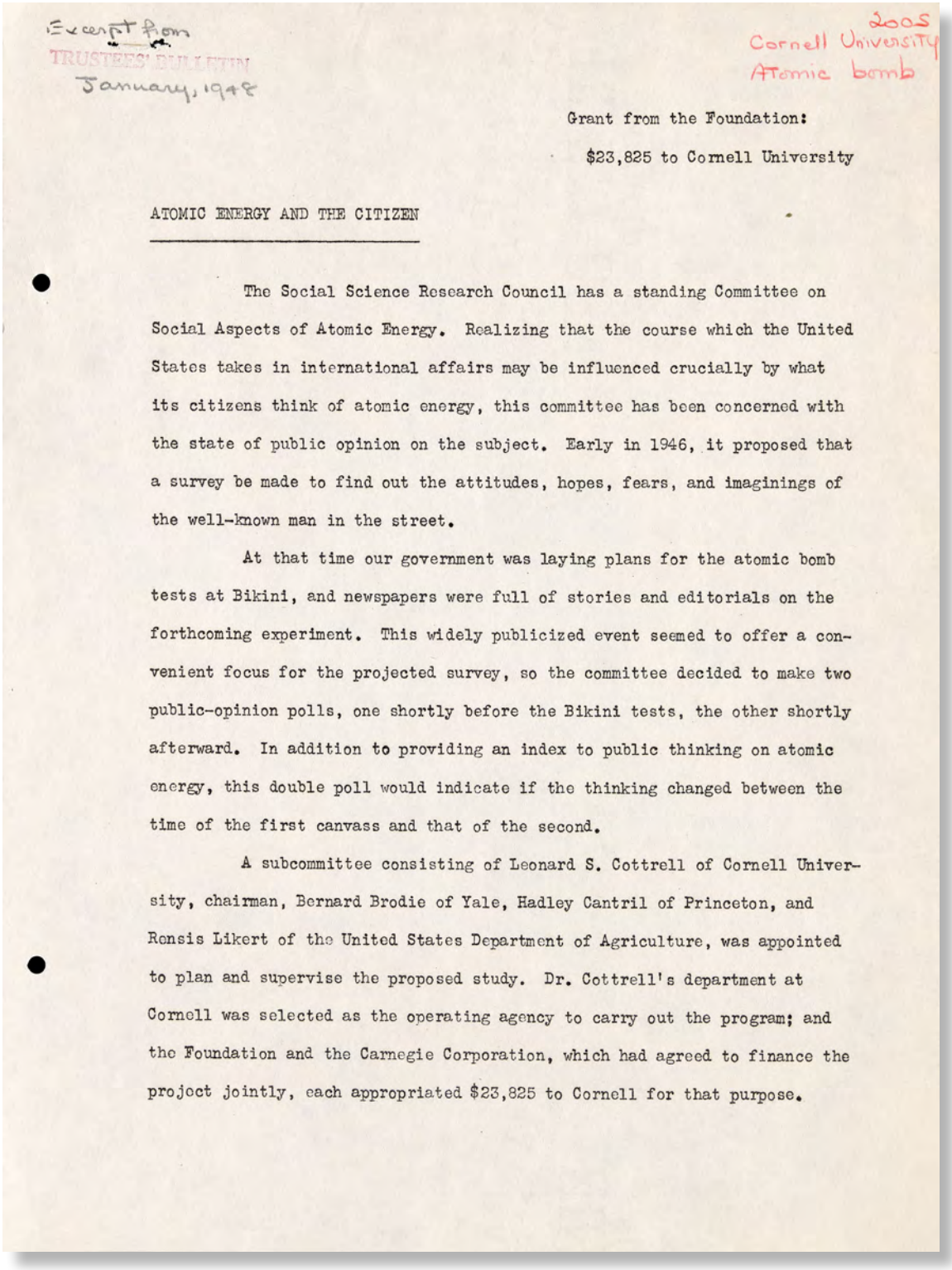

Excerpt from
TRUSTEES' BULLETIN
January, 1948

200S
Cornell University
Atomic bomb

Grant from the Foundation:

$23,825 to Cornell University

ATOMIC ENERGY AND THE CITIZEN

The Social Science Research Council has a standing Committee on Social Aspects of Atomic Energy. Realizing that the course which the United States takes in international affairs may be influenced crucially by what its citizens think of atomic energy, this committee has been concerned with the state of public opinion on the subject. Early in 1946, it proposed that a survey be made to find out the attitudes, hopes, fears, and imaginings of the well-known man in the street.

At that time our government was laying plans for the atomic bomb tests at Bikini, and newspapers were full of stories and editorials on the forthcoming experiment. This widely publicized event seemed to offer a convenient focus for the projected survey, so the committee decided to make two public-opinion polls, one shortly before the Bikini tests, the other shortly afterward. In addition to providing an index to public thinking on atomic energy, this double poll would indicate if the thinking changed between the time of the first canvass and that of the second.

A subcommittee consisting of Leonard S. Cottrell of Cornell University, chairman, Bernard Brodie of Yale, Hadley Cantril of Princeton, and Rensis Likert of the United States Department of Agriculture, was appointed to plan and supervise the proposed study. Dr. Cottrell's department at Cornell was selected as the operating agency to carry out the program; and the Foundation and the Carnegie Corporation, which had agreed to finance the project jointly, each appropriated $23,825 to Cornell for that purpose.

Grant from the Foundation
to Cornell University
Atomic Energy and the Citizen
1948

Cornell University - Atomic Bomb, *1946–1954*

Rockefeller Foundation records; Projects (Grants) - Record Group 1; Subgroup 1.1; Series 100–257 - International and the United States; United States - Series 200; Social Sciences - Subseries 200.S; Rockefeller Archive Center.

PRIMARY SOURCE

Document 5 continued

The survey was made in the summer of 1946, the first poll being taken in early June, the second in mid-August. The pre-Bikini poll interviewed 3,090 persons who had been selected by the quota system to provide a fair sampling of the adult population of the United States at its various economic, social, and cultural levels. For the post-Bikini poll, an additional 2,894 persons were canvassed with the same questions.

These polls which obtained yes, no, or don't-know answers from approximately 6,000 persons were conducted by what is known as the "extensive method" of public-opinion surveying. In addition, the committee made two other separate canvasses according to the "intensive method," a more informal type of interviewing which permits more probing into the reasoning behind the answers. These intensive surveys were made simultaneously with the extensive polls and each covered interviews with 600 persons. Thus, all told, approximately 7,200 individuals were canvassed, 6,000 by the extensive technique and 1,200 by the intensive.

A Summary of Salient Findings

The results have been compiled in a report of 310 pages which relates in detail the methods employed, the questions propounded, and the percentages of answers to each. The following is a summary, in necessarily abbreviated form, of the more salient findings.

On control of the atomic bomb: The overwhelming majority expressed the opinion that the bomb secret should be kept by the United States rather than be turned over to the United Nations; those favoring United Nations control numbered about one-fifth of the total; between the polls taken before and after the Bikini experiment, there was a three per cent decrease in preference for United Nations' control.

Grant from the Foundation
to Cornell University
Atomic Energy and the Citizen
1948

Cornell University - Atomic Bomb, *1946–1954*

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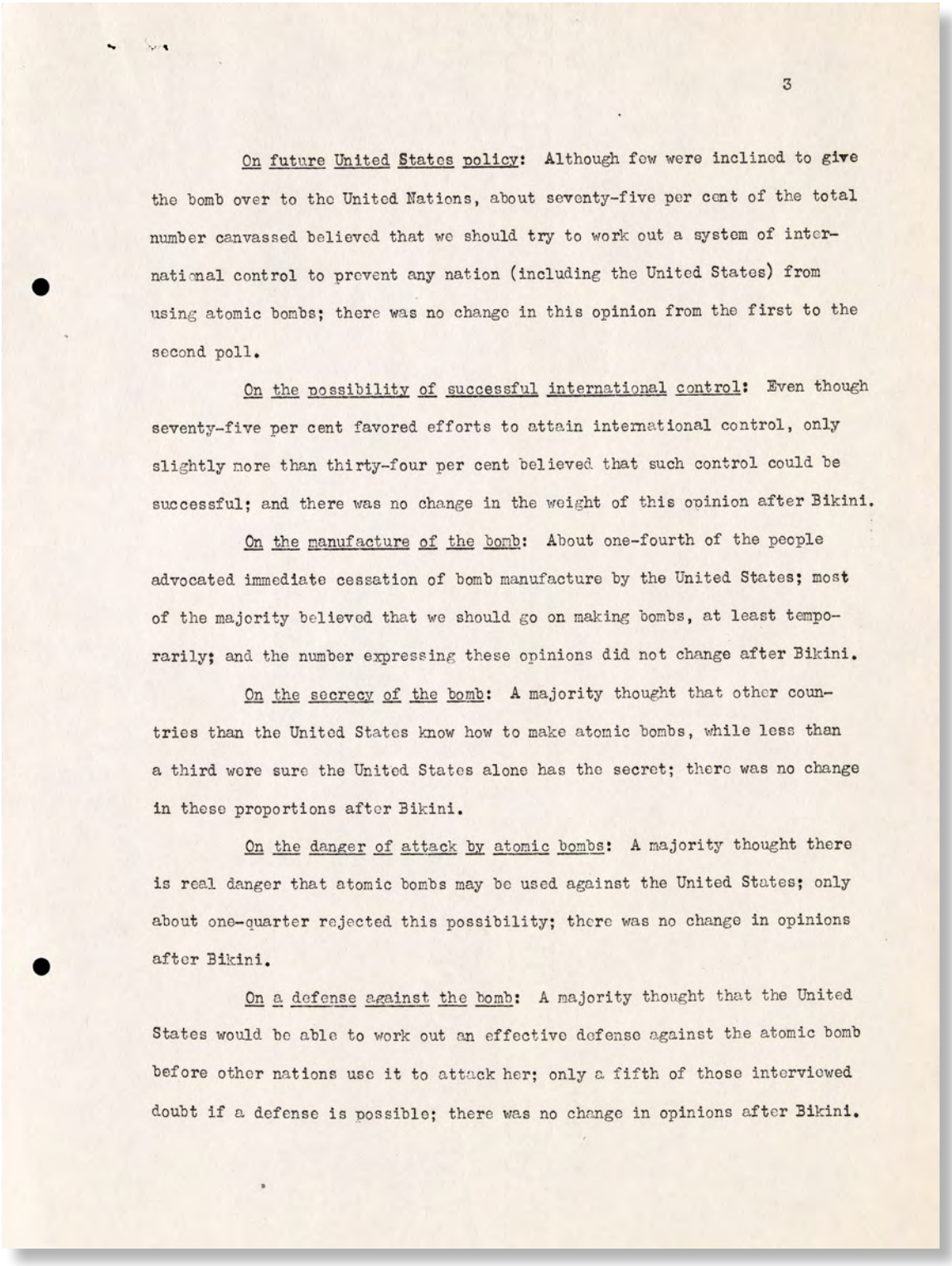

3

On future United States policy: Although few were inclined to give the bomb over to the United Nations, about seventy-five per cent of the total number canvassed believed that we should try to work out a system of international control to prevent any nation (including the United States) from using atomic bombs; there was no change in this opinion from the first to the second poll.

On the possibility of successful international control: Even though seventy-five per cent favored efforts to attain international control, only slightly more than thirty-four per cent believed that such control could be successful; and there was no change in the weight of this opinion after Bikini.

On the manufacture of the bomb: About one-fourth of the people advocated immediate cessation of bomb manufacture by the United States; most of the majority believed that we should go on making bombs, at least temporarily; and the number expressing these opinions did not change after Bikini.

On the secrecy of the bomb: A majority thought that other countries than the United States know how to make atomic bombs, while less than a third were sure the United States alone has the secret; there was no change in these proportions after Bikini.

On the danger of attack by atomic bombs: A majority thought there is real danger that atomic bombs may be used against the United States; only about one-quarter rejected this possibility; there was no change in opinions after Bikini.

On a defense against the bomb: A majority thought that the United States would be able to work out an effective defense against the atomic bomb before other nations use it to attack her; only a fifth of those interviewed doubt if a defense is possible; there was no change in opinions after Bikini.

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Atomic Energy and the Citizen
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Cornell University - Atomic Bomb, *1946–1954*

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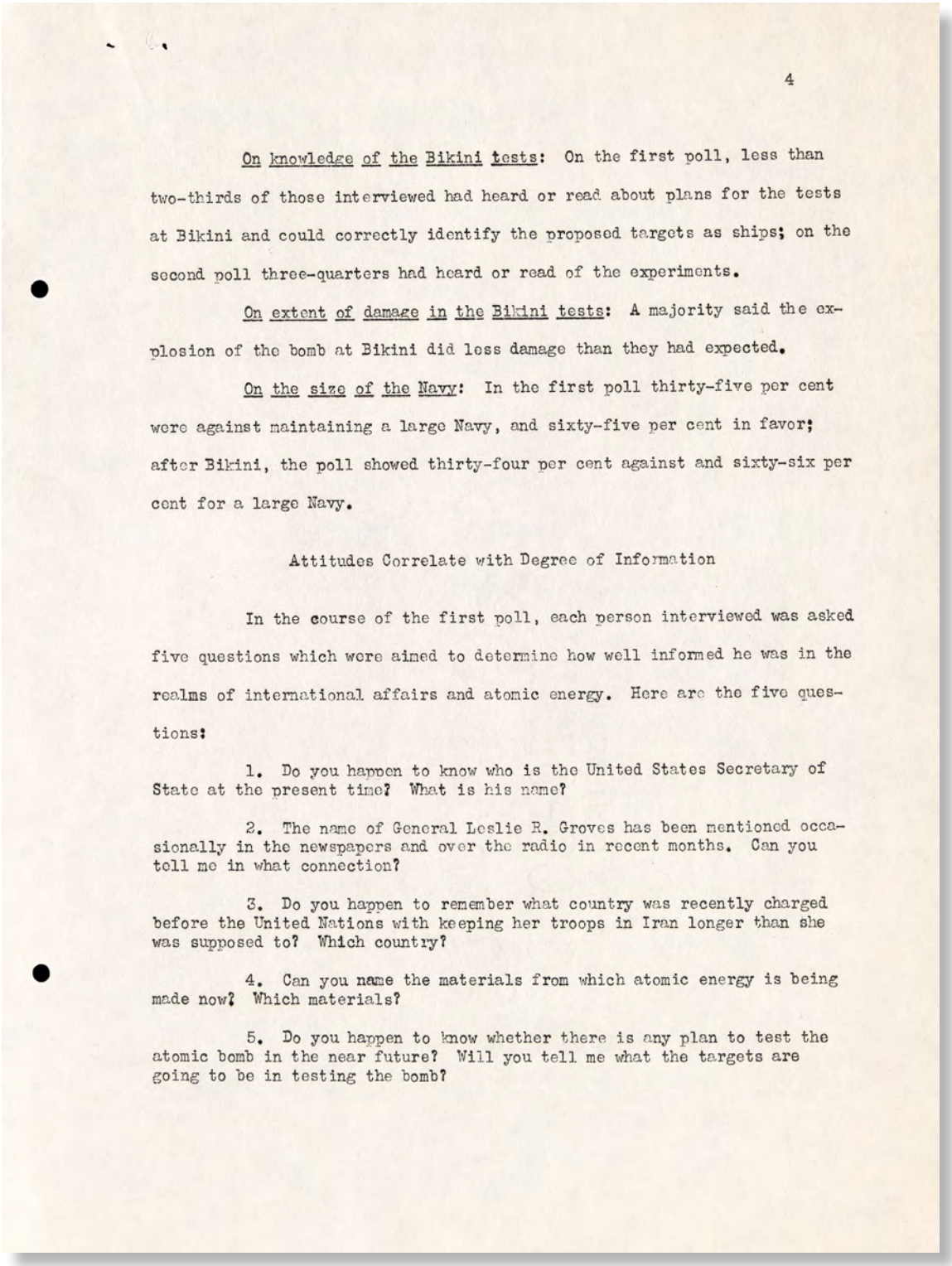

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On knowledge of the Bikini tests: On the first poll, less than two-thirds of those interviewed had heard or read about plans for the tests at Bikini and could correctly identify the proposed targets as ships; on the second poll three-quarters had heard or read of the experiments.

On extent of damage in the Bikini tests: A majority said the explosion of the bomb at Bikini did less damage than they had expected.

On the size of the Navy: In the first poll thirty-five per cent were against maintaining a large Navy, and sixty-five per cent in favor; after Bikini, the poll showed thirty-four per cent against and sixty-six per cent for a large Navy.

Attitudes Correlate with Degree of Information

In the course of the first poll, each person interviewed was asked five questions which were aimed to determine how well informed he was in the realms of international affairs and atomic energy. Here are the five questions:

1. Do you happen to know who is the United States Secretary of State at the present time? What is his name?

2. The name of General Leslie R. Groves has been mentioned occasionally in the newspapers and over the radio in recent months. Can you tell me in what connection?

3. Do you happen to remember what country was recently charged before the United Nations with keeping her troops in Iran longer than she was supposed to? Which country?

4. Can you name the materials from which atomic energy is being made now? Which materials?

5. Do you happen to know whether there is any plan to test the atomic bomb in the near future? Will you tell me what the targets are going to be in testing the bomb?

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to Cornell University
Atomic Energy and the Citizen
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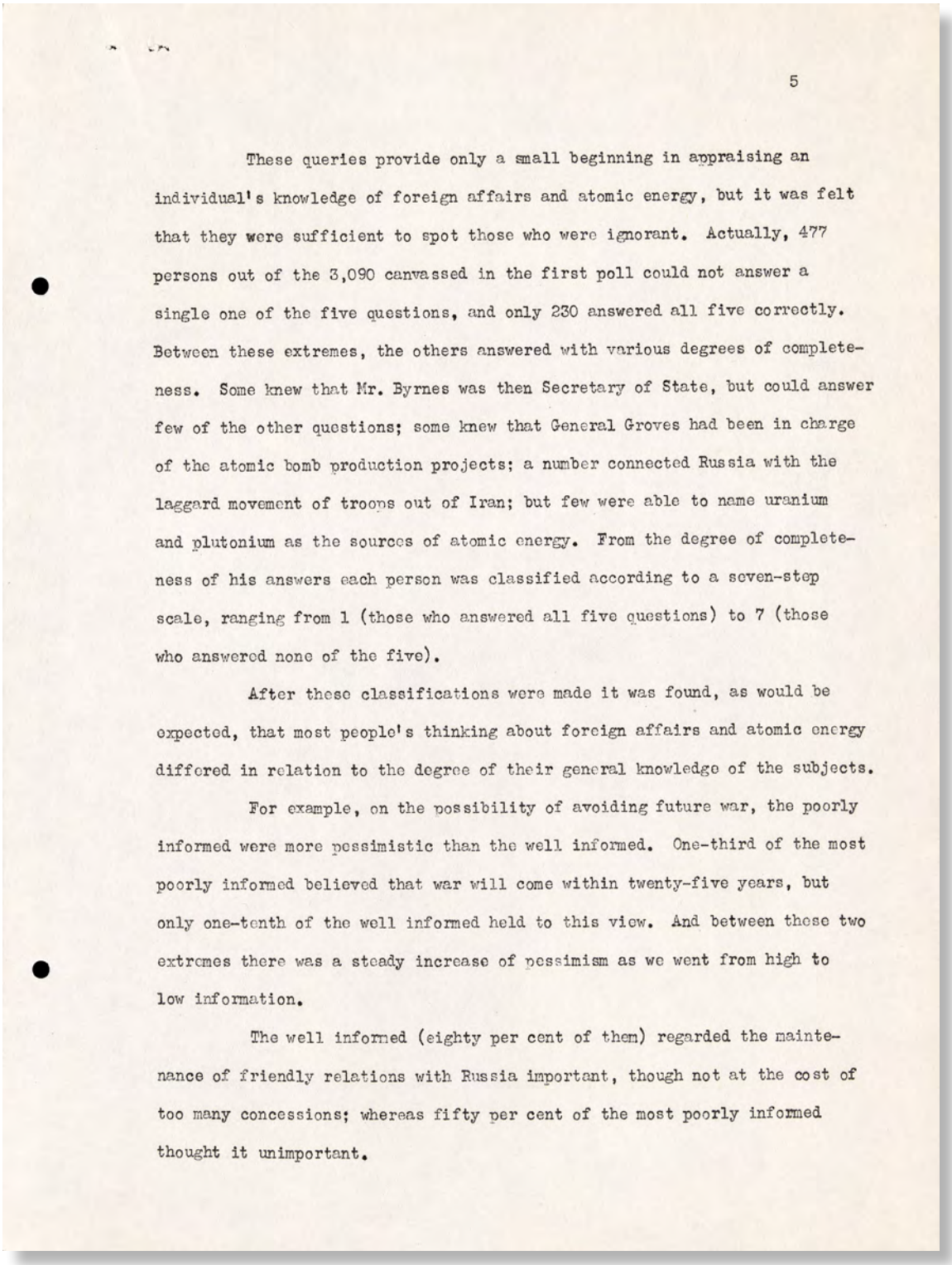

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These queries provide only a small beginning in appraising an individual's knowledge of foreign affairs and atomic energy, but it was felt that they were sufficient to spot those who were ignorant. Actually, 477 persons out of the 3,090 canvassed in the first poll could not answer a single one of the five questions, and only 230 answered all five correctly. Between these extremes, the others answered with various degrees of completeness. Some knew that Mr. Byrnes was then Secretary of State, but could answer few of the other questions; some knew that General Groves had been in charge of the atomic bomb production projects; a number connected Russia with the laggard movement of troops out of Iran; but few were able to name uranium and plutonium as the sources of atomic energy. From the degree of completeness of his answers each person was classified according to a seven-step scale, ranging from 1 (those who answered all five questions) to 7 (those who answered none of the five).

After these classifications were made it was found, as would be expected, that most people's thinking about foreign affairs and atomic energy differed in relation to the degree of their general knowledge of the subjects.

For example, on the possibility of avoiding future war, the poorly informed were more pessimistic than the well informed. One-third of the most poorly informed believed that war will come within twenty-five years, but only one-tenth of the well informed held to this view. And between these two extremes there was a steady increase of pessimism as we went from high to low information.

The well informed (eighty per cent of them) regarded the maintenance of friendly relations with Russia important, though not at the cost of too many concessions; whereas fifty per cent of the most poorly informed thought it unimportant.

Grant from the Foundation
to Cornell University
Atomic Energy and the Citizen
1948

Cornell University - Atomic Bomb, *1946–1954*

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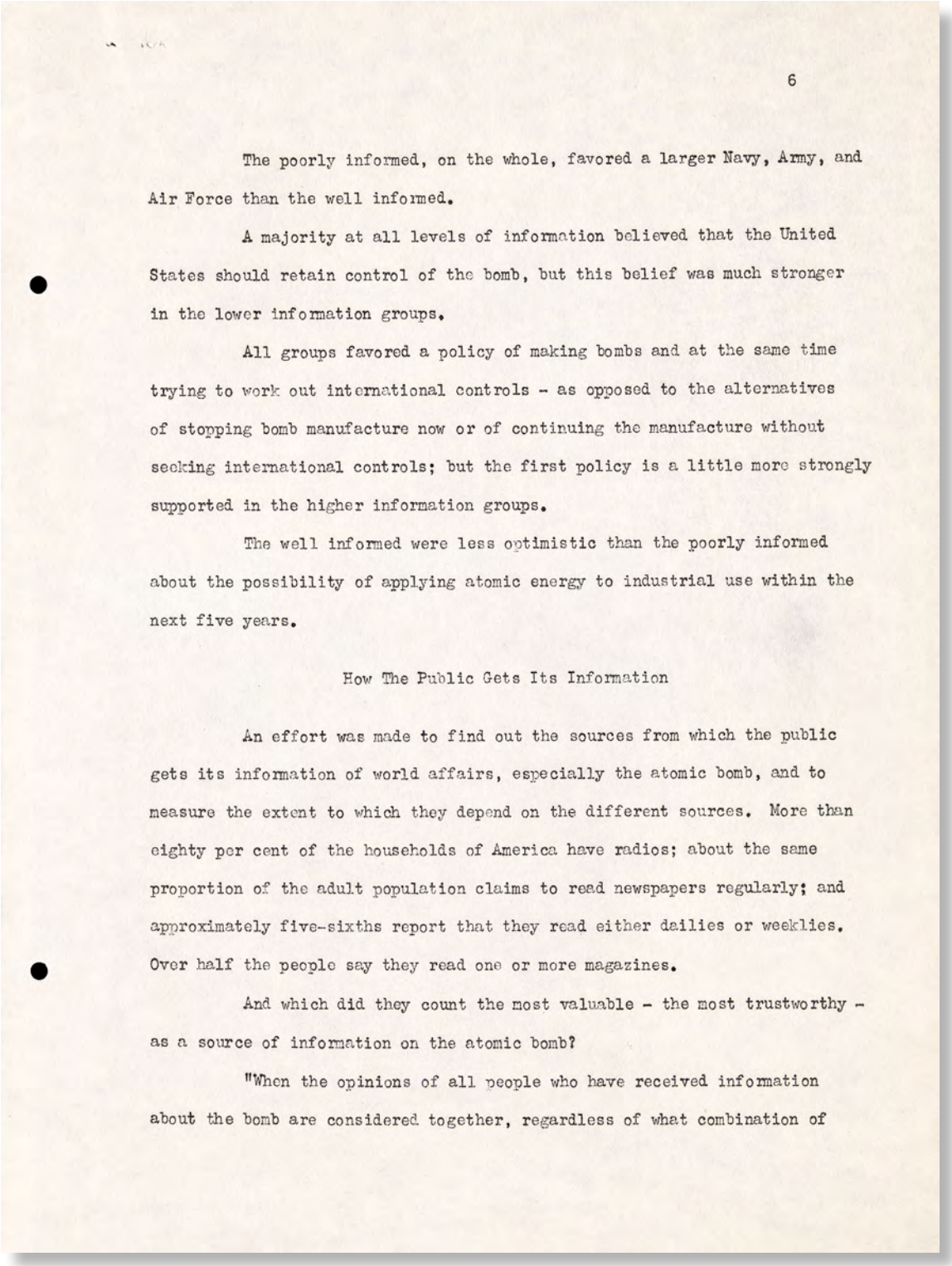

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The poorly informed, on the whole, favored a larger Navy, Army, and Air Force than the well informed.

A majority at all levels of information believed that the United States should retain control of the bomb, but this belief was much stronger in the lower information groups.

All groups favored a policy of making bombs and at the same time trying to work out international controls - as opposed to the alternatives of stopping bomb manufacture now or of continuing the manufacture without seeking international controls; but the first policy is a little more strongly supported in the higher information groups.

The well informed were less optimistic than the poorly informed about the possibility of applying atomic energy to industrial use within the next five years.

How The Public Gets Its Information

An effort was made to find out the sources from which the public gets its information of world affairs, especially the atomic bomb, and to measure the extent to which they depend on the different sources. More than eighty per cent of the households of America have radios; about the same proportion of the adult population claims to read newspapers regularly; and approximately five-sixths report that they read either dailies or weeklies. Over half the people say they read one or more magazines.

And which did they count the most valuable - the most trustworthy - as a source of information on the atomic bomb?

"When the opinions of all people who have received information about the bomb are considered together, regardless of what combination of

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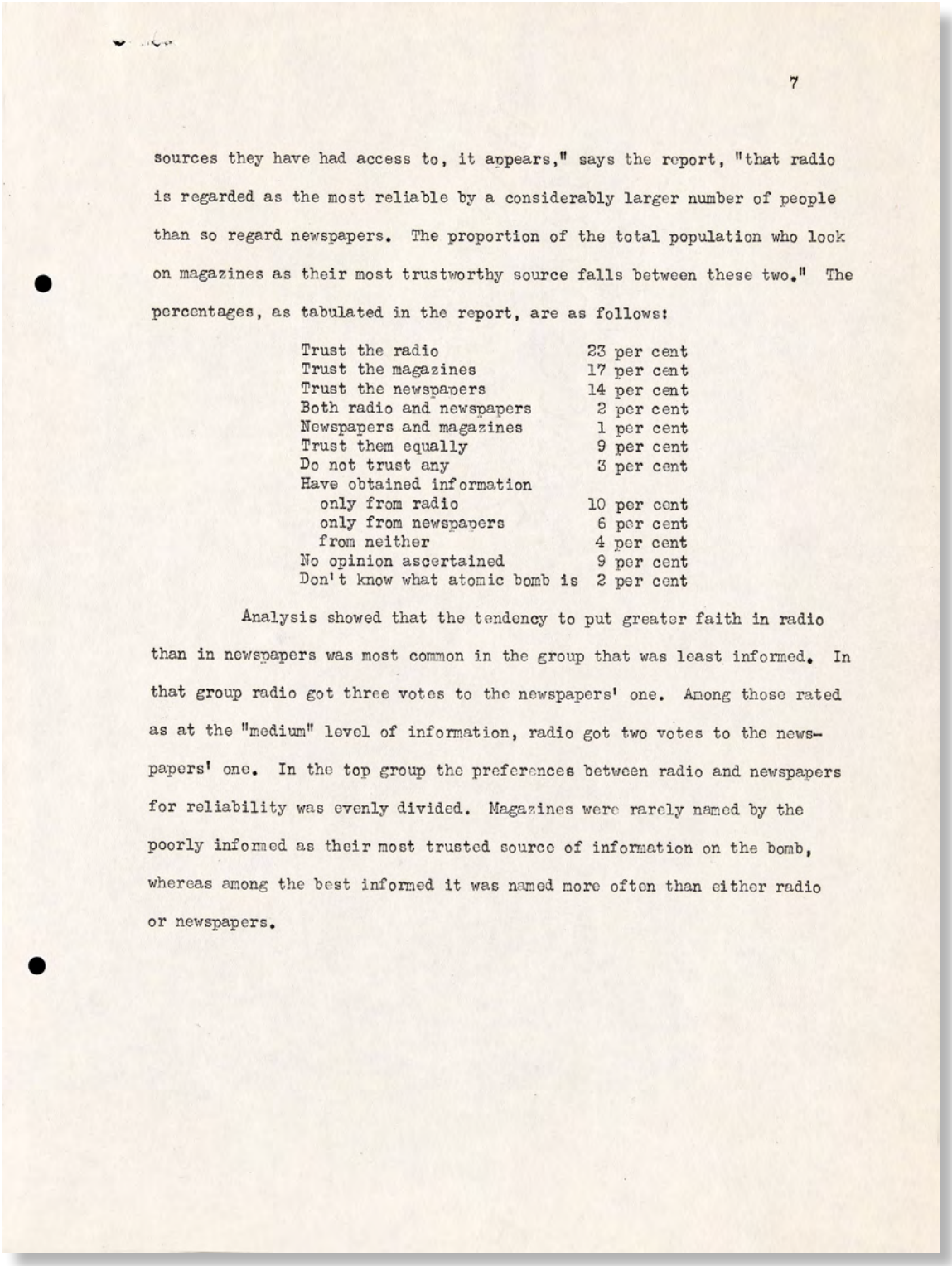

7

sources they have had access to, it appears," says the report, "that radio is regarded as the most reliable by a considerably larger number of people than so regard newspapers. The proportion of the total population who look on magazines as their most trustworthy source falls between these two." The percentages, as tabulated in the report, are as follows:

Trust the radio	23 per cent
Trust the magazines	17 per cent
Trust the newspapers	14 per cent
Both radio and newspapers	2 per cent
Newspapers and magazines	1 per cent
Trust them equally	9 per cent
Do not trust any	3 per cent
Have obtained information	
only from radio	10 per cent
only from newspapers	6 per cent
from neither	4 per cent
No opinion ascertained	9 per cent
Don't know what atomic bomb is	2 per cent

Analysis showed that the tendency to put greater faith in radio than in newspapers was most common in the group that was least informed. In that group radio got three votes to the newspapers' one. Among those rated as at the "medium" level of information, radio got two votes to the newspapers' one. In the top group the preferences between radio and newspapers for reliability was evenly divided. Magazines were rarely named by the poorly informed as their most trusted source of information on the bomb, whereas among the best informed it was named more often than either radio or newspapers.

Grant from the Foundation
to Cornell University
Atomic Energy and the Citizen
1948

Cornell University - Atomic Bomb, *1946–1954*

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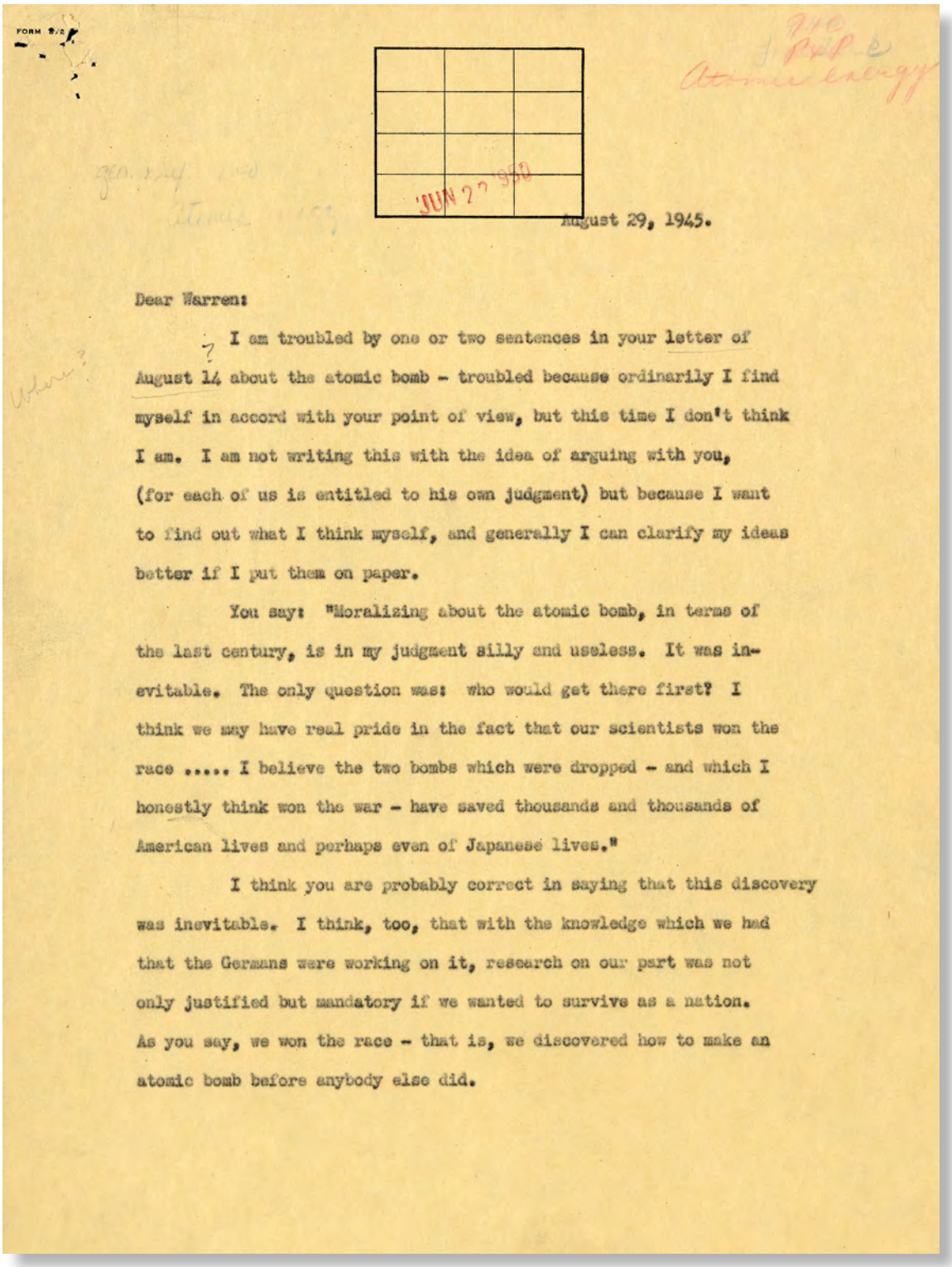

August 29, 1945.

Dear Warren:

I am troubled by one or two sentences in your letter of August 14 about the atomic bomb - troubled because ordinarily I find myself in accord with your point of view, but this time I don't think I am. I am not writing this with the idea of arguing with you, (for each of us is entitled to his own judgment) but because I want to find out what I think myself, and generally I can clarify my ideas better if I put them on paper.

You say: "Moralizing about the atomic bomb, in terms of the last century, is in my judgment silly and useless. It was inevitable. The only question was: who would get there first? I think we may have real pride in the fact that our scientists won the race ..... I believe the two bombs which were dropped - and which I honestly think won the war - have saved thousands and thousands of American lives and perhaps even of Japanese lives."

I think you are probably correct in saying that this discovery was inevitable. I think, too, that with the knowledge which we had that the Germans were working on it, research on our part was not only justified but mandatory if we wanted to survive as a nation. As you say, we won the race - that is, we discovered how to make an atomic bomb before anybody else did.

Letter from Raymond B. Fosdick
to Warren Weaver
August 29, 1945

Program and Policy - Atomic Energy, *1945–1947*

Rockefeller Foundation records; Administration, Program and Policy - Record Group 3; Subgroup 3.2; General Program and Policy - Series 900; Rockefeller Archive Center.

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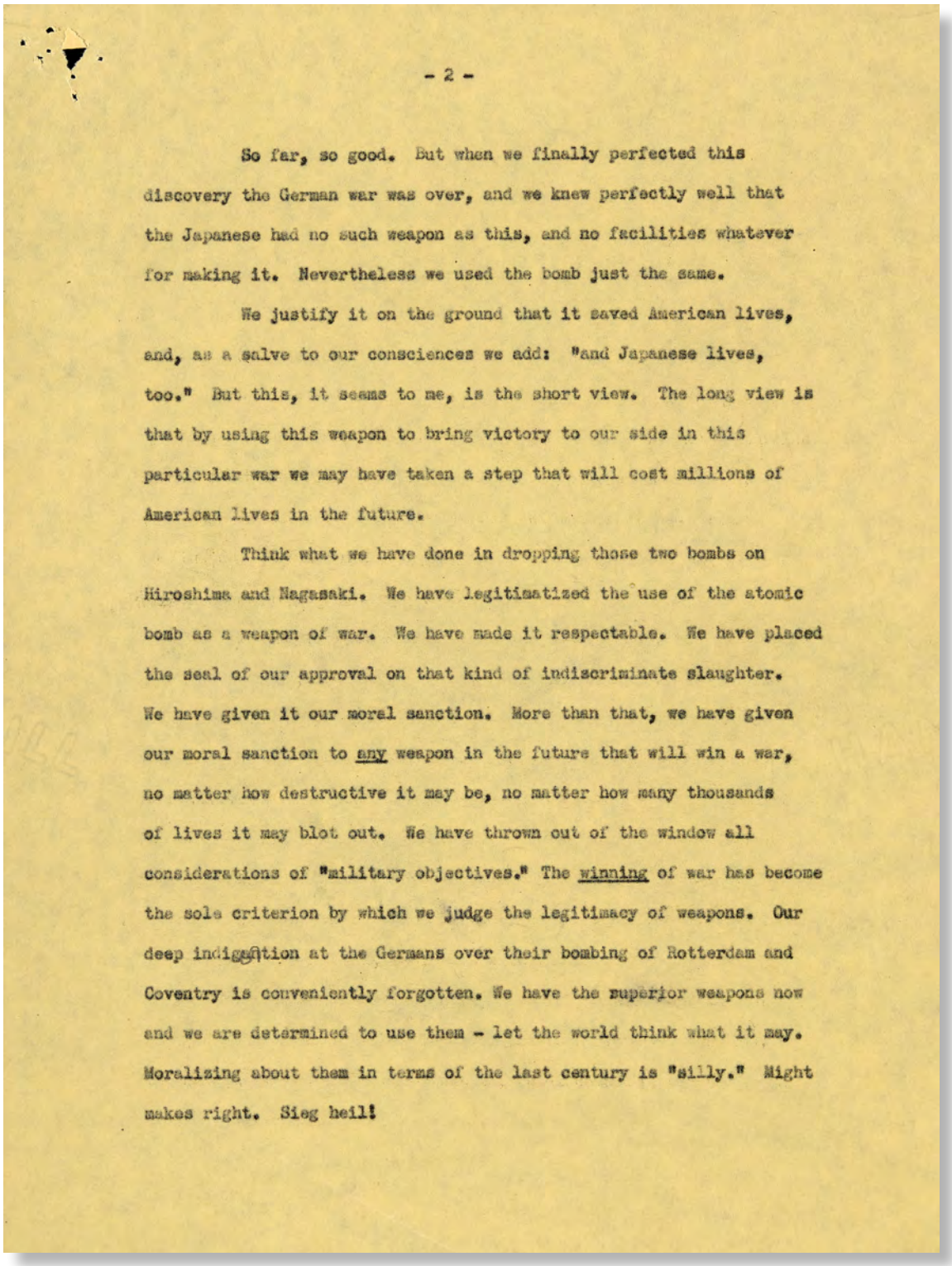

- 2 -

So far, so good. But when we finally perfected this discovery the German war was over, and we knew perfectly well that the Japanese had no such weapon as this, and no facilities whatever for making it. Nevertheless we used the bomb just the same.

We justify it on the ground that it saved American lives, and, as a salve to our consciences we add: "and Japanese lives, too." But this, it seems to me, is the short view. The long view is that by using this weapon to bring victory to our side in this particular war we may have taken a step that will cost millions of American lives in the future.

Think what we have done in dropping those two bombs on Hiroshima and Nagasaki. We have legitimatized the use of the atomic bomb as a weapon of war. We have made it respectable. We have placed the seal of our approval on that kind of indiscriminate slaughter. We have given it our moral sanction. More than that, we have given our moral sanction to any weapon in the future that will win a war, no matter how destructive it may be, no matter how many thousands of lives it may blot out. We have thrown out of the window all considerations of "military objectives." The winning of war has become the sole criterion by which we judge the legitimacy of weapons. Our deep indignation at the Germans over their bombing of Rotterdam and Coventry is conveniently forgotten. We have the superior weapons now and we are determined to use them - let the world think what it may. Moralizing about them in terms of the last century is "silly." Might makes right. Sieg heil!

Letter from Raymond B. Fosdick
to Warren Weaver
August 29, 1945

Program and Policy - Atomic Energy, *1945–1947*

Rockefeller Foundation records; Administration, Program and Policy - Record Group 3; Subgroup 3.2; General Program and Policy - Series 900; Rockefeller Archive Center.

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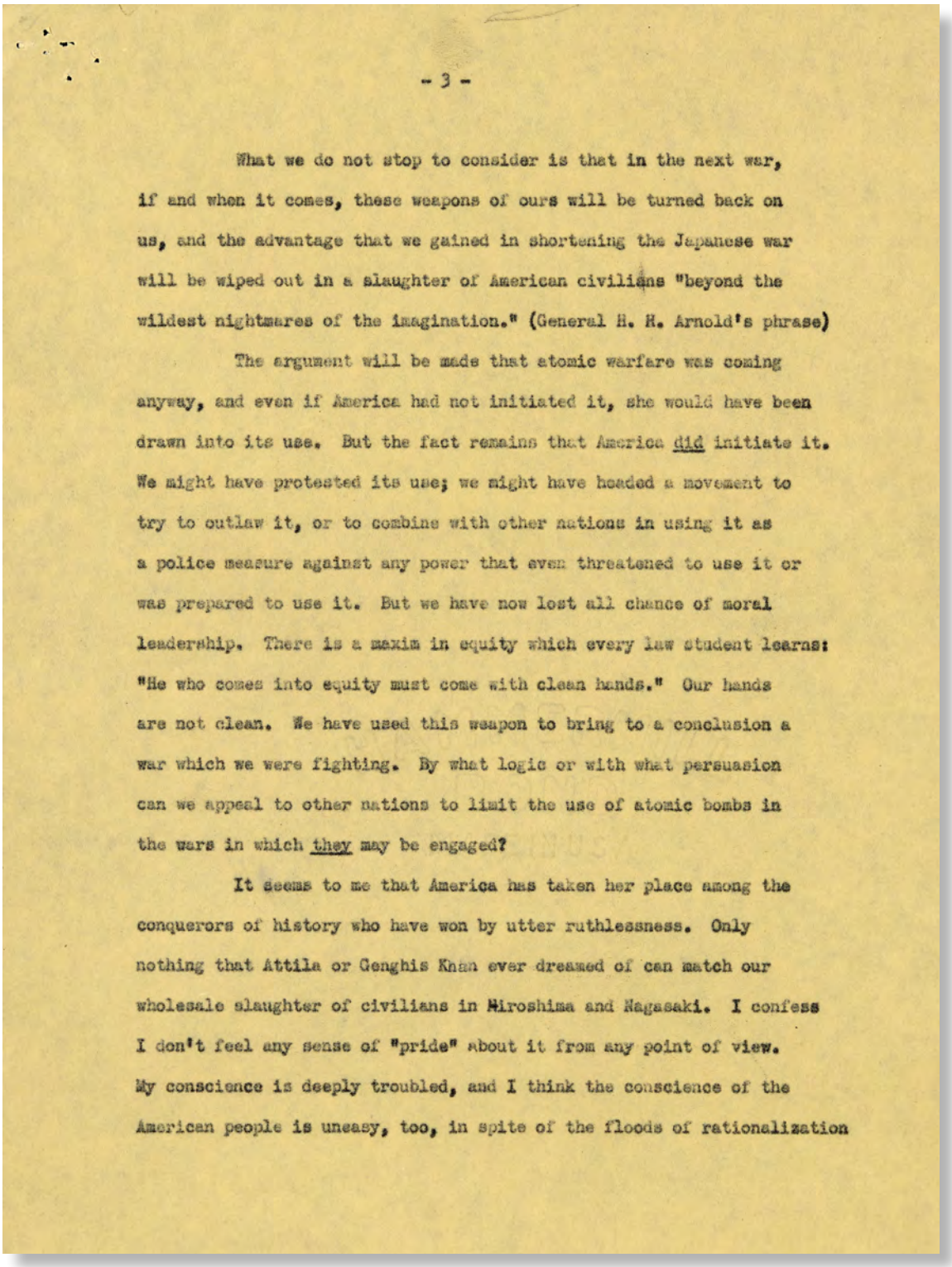
Document 6 continued



- 3 -

What we do not stop to consider is that in the next war, if and when it comes, these weapons of ours will be turned back on us, and the advantage that we gained in shortening the Japanese war will be wiped out in a slaughter of American civilians "beyond the wildest nightmares of the imagination." (General H. H. Arnold's phrase)

The argument will be made that atomic warfare was coming anyway, and even if America had not initiated it, she would have been drawn into its use. But the fact remains that America did initiate it. We might have protested its use; we might have headed a movement to try to outlaw it, or to combine with other nations in using it as a police measure against any power that even threatened to use it or was prepared to use it. But we have now lost all chance of moral leadership. There is a maxim in equity which every law student learns: "He who comes into equity must come with clean hands." Our hands are not clean. We have used this weapon to bring to a conclusion a war which we were fighting. By what logic or with what persuasion can we appeal to other nations to limit the use of atomic bombs in the wars in which they may be engaged?

It seems to me that America has taken her place among the conquerors of history who have won by utter ruthlessness. Only nothing that Attila or Genghis Khan ever dreamed of can match our wholesale slaughter of civilians in Hiroshima and Nagasaki. I confess I don't feel any sense of "pride" about it from any point of view. My conscience is deeply troubled, and I think the conscience of the American people is uneasy, too, in spite of the floods of rationalization

Letter from Raymond B. Fosdick
to Warren Weaver
August 29, 1945

Program and Policy - Atomic Energy, *1945–1947*

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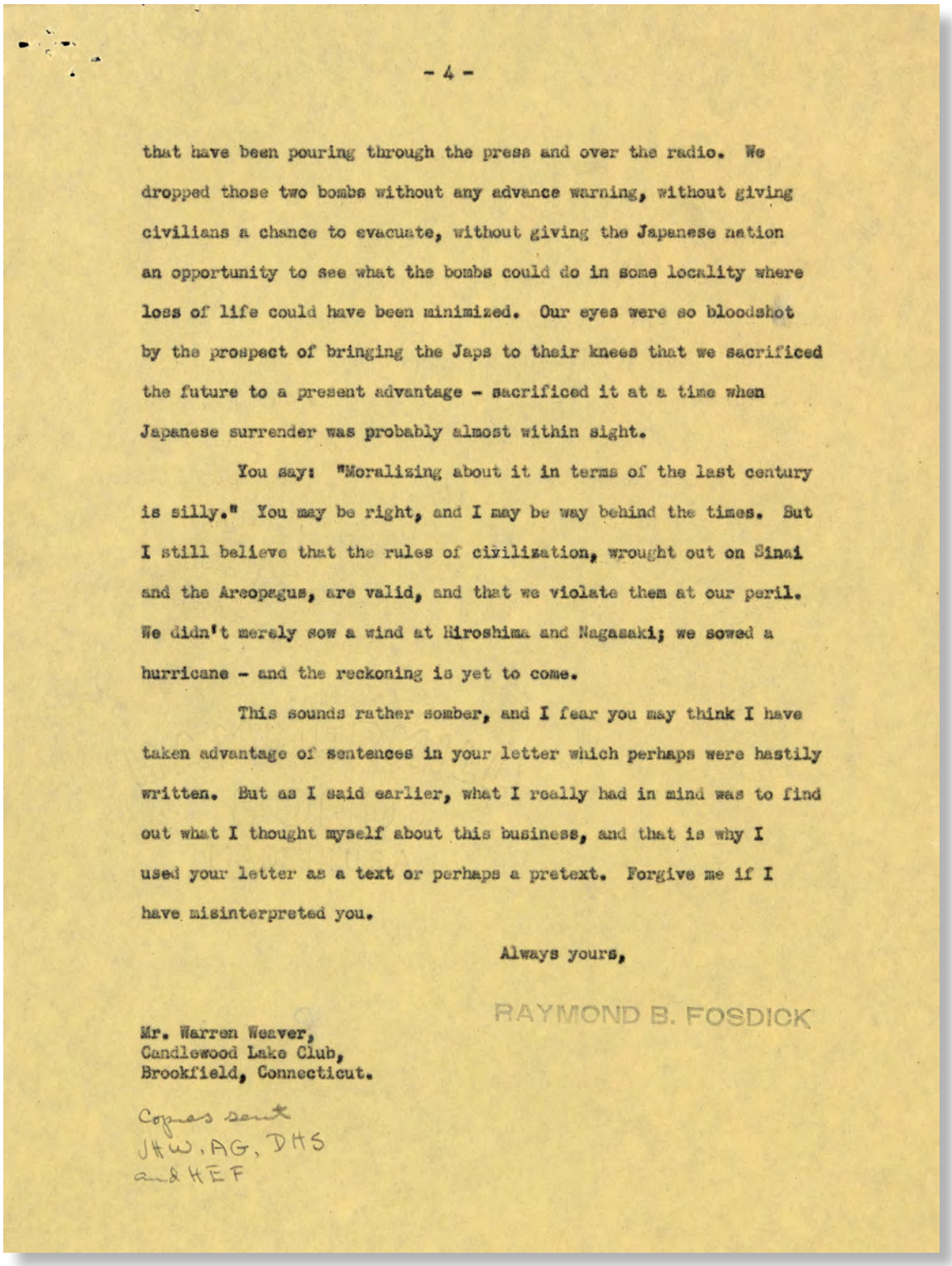

- 4 -

that have been pouring through the press and over the radio. We dropped those two bombs without any advance warning, without giving civilians a chance to evacuate, without giving the Japanese nation an opportunity to see what the bombs could do in some locality where loss of life could have been minimized. Our eyes were so bloodshot by the prospect of bringing the Japs to their knees that we sacrificed the future to a present advantage - sacrificed it at a time when Japanese surrender was probably almost within sight.

You say: "Moralizing about it in terms of the last century is silly." You may be right, and I may be way behind the times. But I still believe that the rules of civilization, wrought out on Sinai and the Areopagus, are valid, and that we violate them at our peril. We didn't merely sow a wind at Hiroshima and Nagasaki; we sowed a hurricane - and the reckoning is yet to come.

This sounds rather somber, and I fear you may think I have taken advantage of sentences in your letter which perhaps were hastily written. But as I said earlier, what I really had in mind was to find out what I thought myself about this business, and that is why I used your letter as a text or perhaps a pretext. Forgive me if I have misinterpreted you.

Always yours,

RAYMOND B. FOSDICK

Mr. Warren Weaver,
Candlewood Lake Club,
Brookfield, Connecticut.

Copies sent
JHW, AG, DHS
and HEF

Letter from Raymond B. Fosdick
to Warren Weaver
August 29, 1945

Program and Policy - Atomic Energy, *1945–1947*

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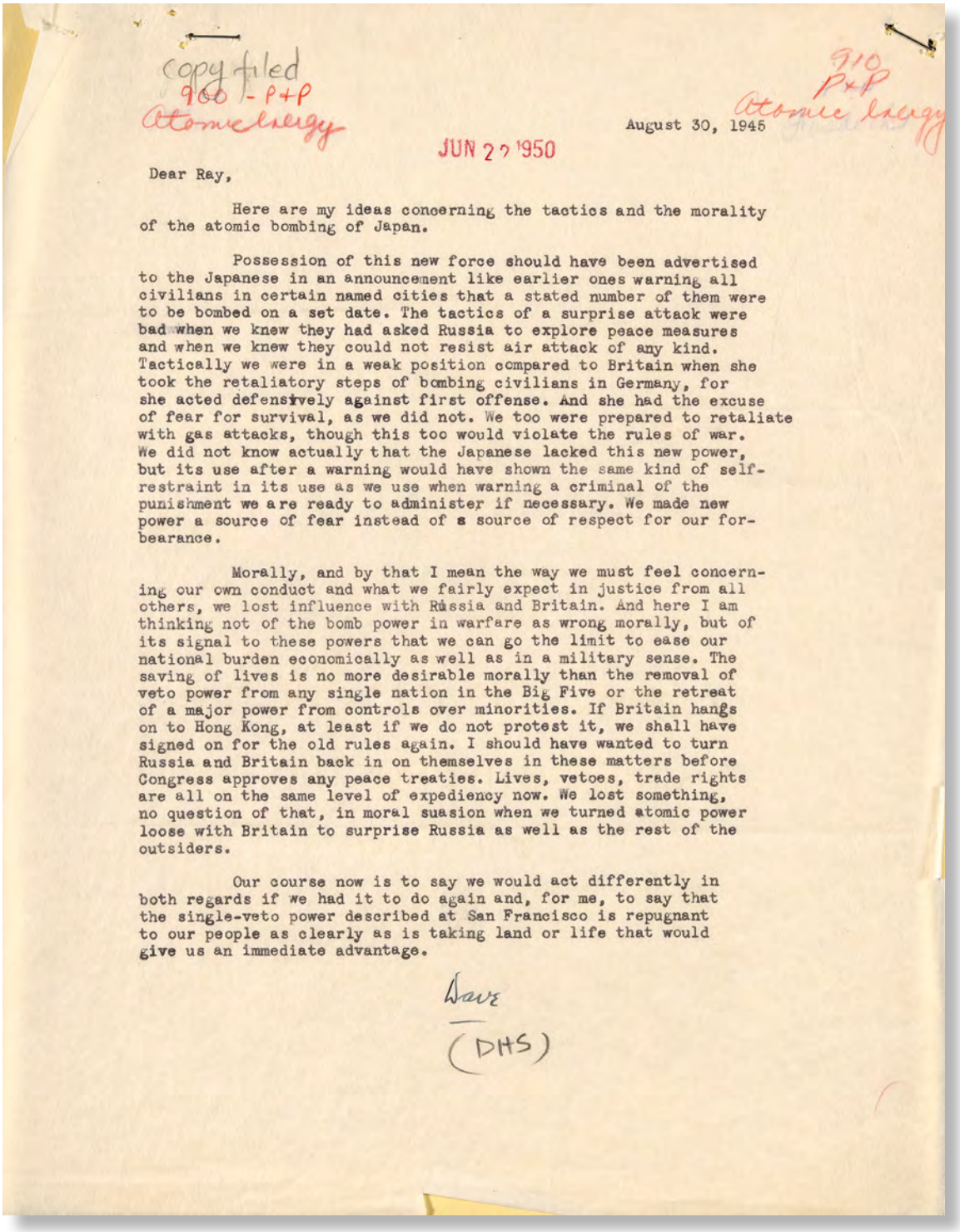

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900 - P+P
Atomic Energy

910
P+P
Atomic Energy

August 30, 1945

JUN 27 1950

Dear Ray,

Here are my ideas concerning the tactics and the morality of the atomic bombing of Japan.

Possession of this new force should have been advertised to the Japanese in an announcement like earlier ones warning all civilians in certain named cities that a stated number of them were to be bombed on a set date. The tactics of a surprise attack were bad when we knew they had asked Russia to explore peace measures and when we knew they could not resist air attack of any kind. Tactically we were in a weak position compared to Britain when she took the retaliatory steps of bombing civilians in Germany, for she acted defensively against first offense. And she had the excuse of fear for survival, as we did not. We too were prepared to retaliate with gas attacks, though this too would violate the rules of war. We did not know actually that the Japanese lacked this new power, but its use after a warning would have shown the same kind of self-restraint in its use as we use when warning a criminal of the punishment we are ready to administer if necessary. We made new power a source of fear instead of a source of respect for our forbearance.

Morally, and by that I mean the way we must feel concerning our own conduct and what we fairly expect in justice from all others, we lost influence with Russia and Britain. And here I am thinking not of the bomb power in warfare as wrong morally, but of its signal to these powers that we can go the limit to ease our national burden economically as well as in a military sense. The saving of lives is no more desirable morally than the removal of veto power from any single nation in the Big Five or the retreat of a major power from controls over minorities. If Britain hangs on to Hong Kong, at least if we do not protest it, we shall have signed on for the old rules again. I should have wanted to turn Russia and Britain back in on themselves in these matters before Congress approves any peace treaties. Lives, vetoes, trade rights are all on the same level of expediency now. We lost something, no question of that, in moral suasion when we turned atomic power loose with Britain to surprise Russia as well as the rest of the outsiders.

Our course now is to say we would act differently in both regards if we had it to do again and, for me, to say that the single-veto power described at San Francisco is repugnant to our people as clearly as is taking land or life that would give us an immediate advantage.

Dave

(DHS)

Letter from David H. Stevens
to Raymond B. Fosdick
August 30, 1945

Program and Policy - Atomic Energy, *1945–1947*

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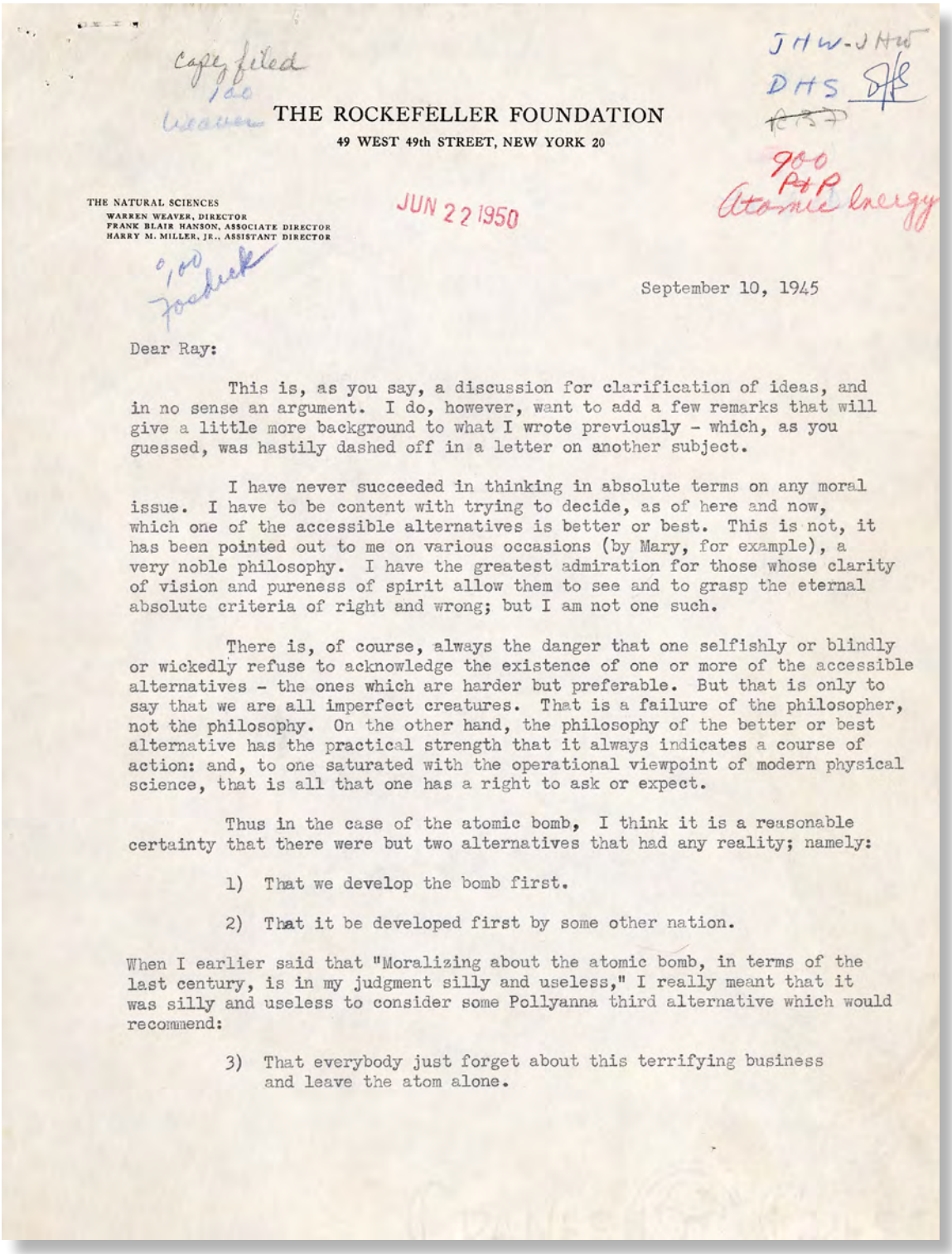

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100
Weaver

JHW-JHF
DHS

900
Pt P
Atomic Energy

THE ROCKEFELLER FOUNDATION
49 WEST 49th STREET, NEW YORK 20

THE NATURAL SCIENCES
WARREN WEAVER, DIRECTOR
FRANK BLAIR HANSON, ASSOCIATE DIRECTOR
HARRY M. MILLER, JR., ASSISTANT DIRECTOR

JUN 22 1950

0,00
Fosdick

September 10, 1945

Dear Ray:

This is, as you say, a discussion for clarification of ideas, and in no sense an argument. I do, however, want to add a few remarks that will give a little more background to what I wrote previously - which, as you guessed, was hastily dashed off in a letter on another subject.

I have never succeeded in thinking in absolute terms on any moral issue. I have to be content with trying to decide, as of here and now, which one of the accessible alternatives is better or best. This is not, it has been pointed out to me on various occasions (by Mary, for example), a very noble philosophy. I have the greatest admiration for those whose clarity of vision and pureness of spirit allow them to see and to grasp the eternal absolute criteria of right and wrong; but I am not one such.

There is, of course, always the danger that one selfishly or blindly or wickedly refuse to acknowledge the existence of one or more of the accessible alternatives - the ones which are harder but preferable. But that is only to say that we are all imperfect creatures. That is a failure of the philosopher, not the philosophy. On the other hand, the philosophy of the better or best alternative has the practical strength that it always indicates a course of action: and, to one saturated with the operational viewpoint of modern physical science, that is all that one has a right to ask or expect.

Thus in the case of the atomic bomb, I think it is a reasonable certainty that there were but two alternatives that had any reality; namely:

1) That we develop the bomb first.

2) That it be developed first by some other nation.

When I earlier said that "Moralizing about the atomic bomb, in terms of the last century, is in my judgment silly and useless," I really meant that it was silly and useless to consider some Pollyanna third alternative which would recommend:

3) That everybody just forget about this terrifying business and leave the atom alone.

Letter from Warren Weaver
to Raymond B. Fosdick
September 10, 1945

Program and Policy - Atomic Energy, *1945–1947*

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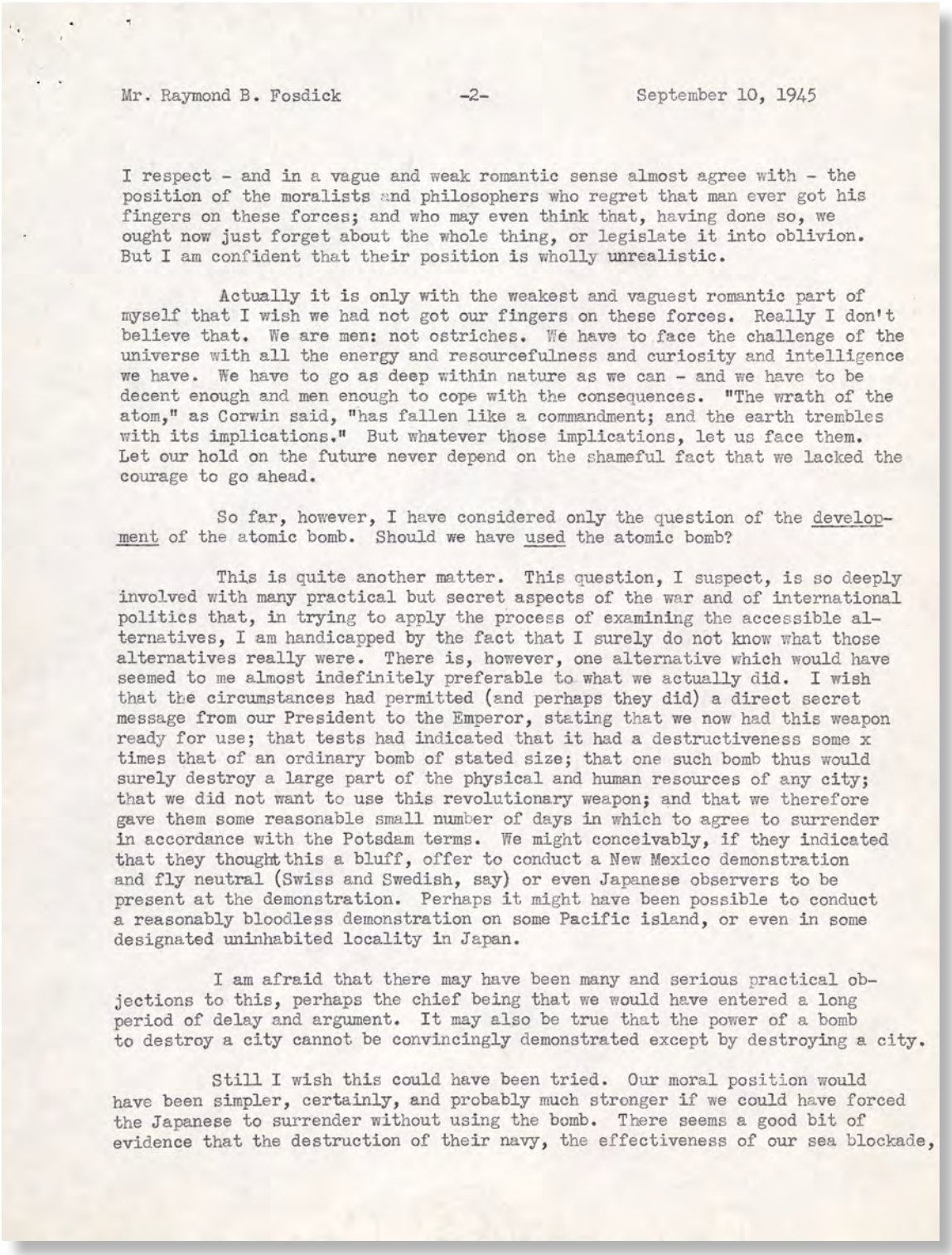

Mr. Raymond B. Fosdick -2- September 10, 1945

I respect - and in a vague and weak romantic sense almost agree with - the position of the moralists and philosophers who regret that man ever got his fingers on these forces; and who may even think that, having done so, we ought now just forget about the whole thing, or legislate it into oblivion. But I am confident that their position is wholly unrealistic.

Actually it is only with the weakest and vaguest romantic part of myself that I wish we had not got our fingers on these forces. Really I don't believe that. We are men: not ostriches. We have to face the challenge of the universe with all the energy and resourcefulness and curiosity and intelligence we have. We have to go as deep within nature as we can - and we have to be decent enough and men enough to cope with the consequences. "The wrath of the atom," as Corwin said, "has fallen like a commandment; and the earth trembles with its implications." But whatever those implications, let us face them. Let our hold on the future never depend on the shameful fact that we lacked the courage to go ahead.

So far, however, I have considered only the question of the development of the atomic bomb. Should we have used the atomic bomb?

This is quite another matter. This question, I suspect, is so deeply involved with many practical but secret aspects of the war and of international politics that, in trying to apply the process of examining the accessible alternatives, I am handicapped by the fact that I surely do not know what those alternatives really were. There is, however, one alternative which would have seemed to me almost indefinitely preferable to what we actually did. I wish that the circumstances had permitted (and perhaps they did) a direct secret message from our President to the Emperor, stating that we now had this weapon ready for use; that tests had indicated that it had a destructiveness some x times that of an ordinary bomb of stated size; that one such bomb thus would surely destroy a large part of the physical and human resources of any city; that we did not want to use this revolutionary weapon; and that we therefore gave them some reasonable small number of days in which to agree to surrender in accordance with the Potsdam terms. We might conceivably, if they indicated that they thought this a bluff, offer to conduct a New Mexico demonstration and fly neutral (Swiss and Swedish, say) or even Japanese observers to be present at the demonstration. Perhaps it might have been possible to conduct a reasonably bloodless demonstration on some Pacific island, or even in some designated uninhabited locality in Japan.

I am afraid that there may have been many and serious practical objections to this, perhaps the chief being that we would have entered a long period of delay and argument. It may also be true that the power of a bomb to destroy a city cannot be convincingly demonstrated except by destroying a city.

Still I wish this could have been tried. Our moral position would have been simpler, certainly, and probably much stronger if we could have forced the Japanese to surrender without using the bomb. There seems a good bit of evidence that the destruction of their navy, the effectiveness of our sea blockade,

Letter from Warren Weaver
to Raymond B. Fosdick
September 10, 1945

Program and Policy - Atomic Energy, *1945–1947*

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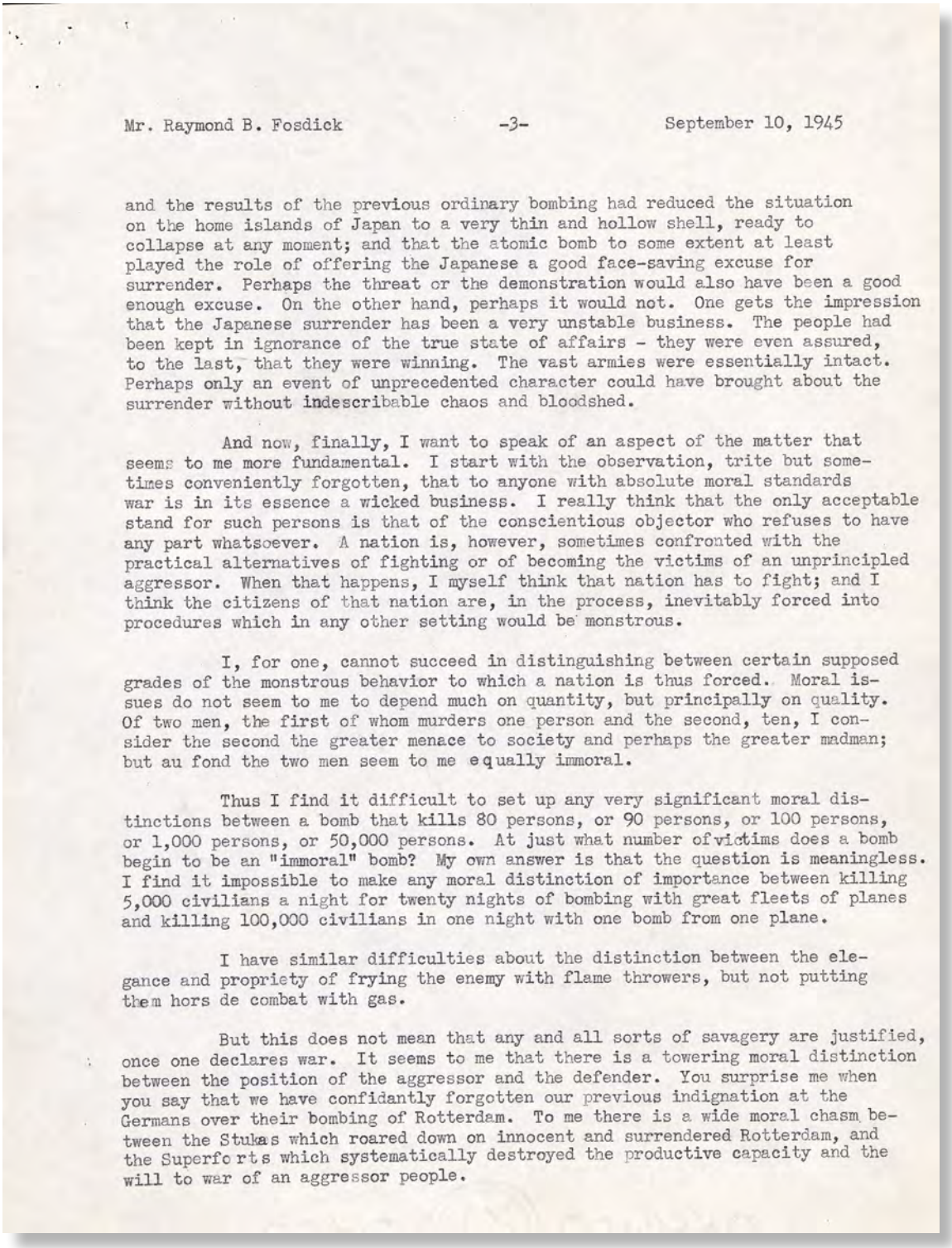

Mr. Raymond B. Fosdick -3- September 10, 1945

and the results of the previous ordinary bombing had reduced the situation on the home islands of Japan to a very thin and hollow shell, ready to collapse at any moment; and that the atomic bomb to some extent at least played the role of offering the Japanese a good face-saving excuse for surrender. Perhaps the threat or the demonstration would also have been a good enough excuse. On the other hand, perhaps it would not. One gets the impression that the Japanese surrender has been a very unstable business. The people had been kept in ignorance of the true state of affairs - they were even assured, to the last, that they were winning. The vast armies were essentially intact. Perhaps only an event of unprecedented character could have brought about the surrender without indescribable chaos and bloodshed.

And now, finally, I want to speak of an aspect of the matter that seems to me more fundamental. I start with the observation, trite but sometimes conveniently forgotten, that to anyone with absolute moral standards war is in its essence a wicked business. I really think that the only acceptable stand for such persons is that of the conscientious objector who refuses to have any part whatsoever. A nation is, however, sometimes confronted with the practical alternatives of fighting or of becoming the victims of an unprincipled aggressor. When that happens, I myself think that nation has to fight; and I think the citizens of that nation are, in the process, inevitably forced into procedures which in any other setting would be monstrous.

I, for one, cannot succeed in distinguishing between certain supposed grades of the monstrous behavior to which a nation is thus forced. Moral issues do not seem to me to depend much on quantity, but principally on quality. Of two men, the first of whom murders one person and the second, ten, I consider the second the greater menace to society and perhaps the greater madman; but au fond the two men seem to me equally immoral.

Thus I find it difficult to set up any very significant moral distinctions between a bomb that kills 80 persons, or 90 persons, or 100 persons, or 1,000 persons, or 50,000 persons. At just what number of victims does a bomb begin to be an "immoral" bomb? My own answer is that the question is meaningless. I find it impossible to make any moral distinction of importance between killing 5,000 civilians a night for twenty nights of bombing with great fleets of planes and killing 100,000 civilians in one night with one bomb from one plane.

I have similar difficulties about the distinction between the elegance and propriety of frying the enemy with flame throwers, but not putting them hors de combat with gas.

But this does not mean that any and all sorts of savagery are justified, once one declares war. It seems to me that there is a towering moral distinction between the position of the aggressor and the defender. You surprise me when you say that we have confidantly forgotten our previous indignation at the Germans over their bombing of Rotterdam. To me there is a wide moral chasm between the Stukas which roared down on innocent and surrendered Rotterdam, and the Superforts which systematically destroyed the productive capacity and the will to war of an aggressor people.

Letter from Warren Weaver
to Raymond B. Fosdick
September 10, 1945

Program and Policy - Atomic Energy, *1945–1947*

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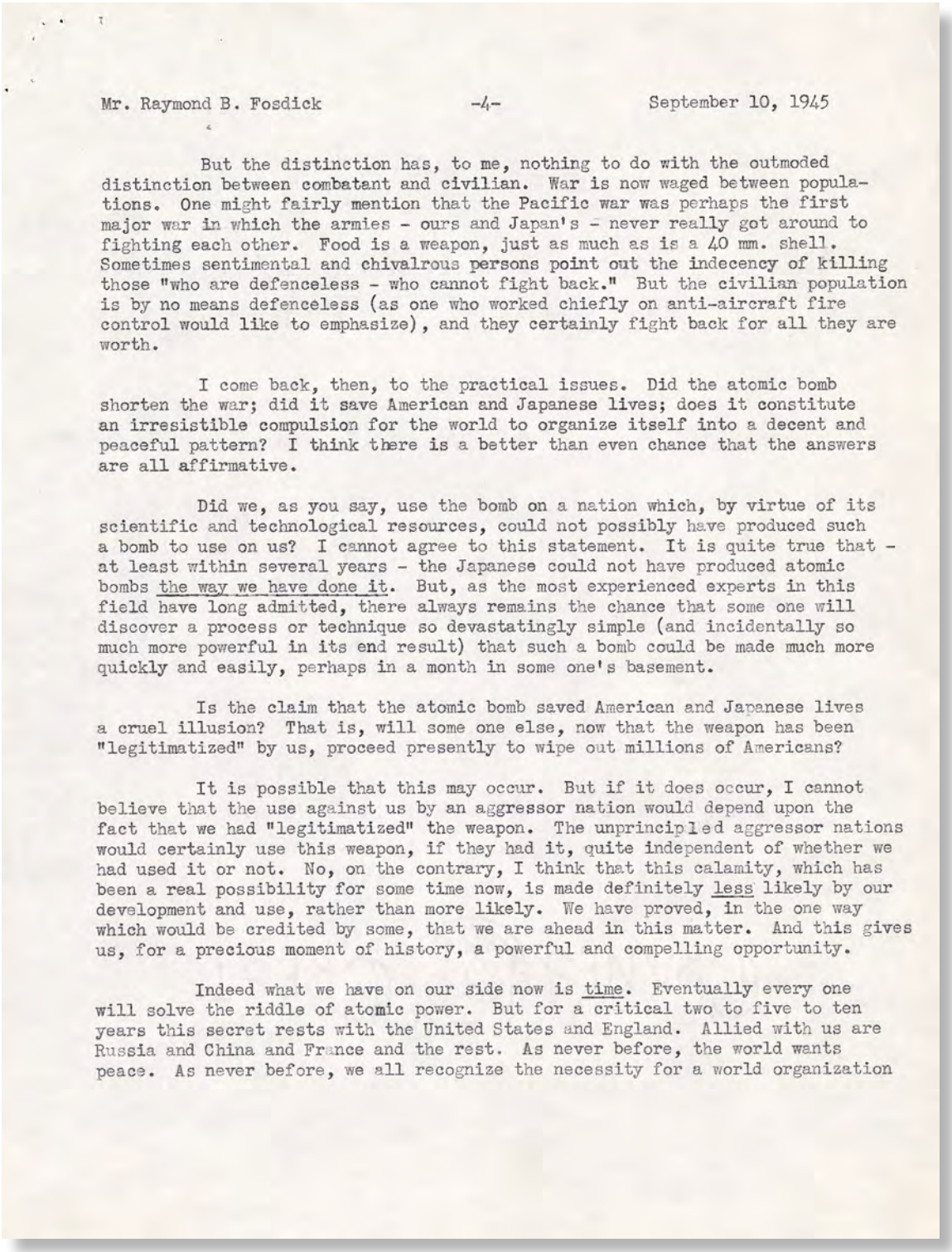

Mr. Raymond B. Fosdick -4- September 10, 1945

But the distinction has, to me, nothing to do with the outmoded distinction between combatant and civilian. War is now waged between populations. One might fairly mention that the Pacific war was perhaps the first major war in which the armies - ours and Japan's - never really got around to fighting each other. Food is a weapon, just as much as is a 40 mm. shell. Sometimes sentimental and chivalrous persons point out the indecency of killing those "who are defenceless - who cannot fight back." But the civilian population is by no means defenceless (as one who worked chiefly on anti-aircraft fire control would like to emphasize), and they certainly fight back for all they are worth.

I come back, then, to the practical issues. Did the atomic bomb shorten the war; did it save American and Japanese lives; does it constitute an irresistible compulsion for the world to organize itself into a decent and peaceful pattern? I think there is a better than even chance that the answers are all affirmative.

Did we, as you say, use the bomb on a nation which, by virtue of its scientific and technological resources, could not possibly have produced such a bomb to use on us? I cannot agree to this statement. It is quite true that - at least within several years - the Japanese could not have produced atomic bombs the way we have done it. But, as the most experienced experts in this field have long admitted, there always remains the chance that some one will discover a process or technique so devastatingly simple (and incidentally so much more powerful in its end result) that such a bomb could be made much more quickly and easily, perhaps in a month in some one's basement.

Is the claim that the atomic bomb saved American and Japanese lives a cruel illusion? That is, will some one else, now that the weapon has been "legitimatized" by us, proceed presently to wipe out millions of Americans?

It is possible that this may occur. But if it does occur, I cannot believe that the use against us by an aggressor nation would depend upon the fact that we had "legitimatized" the weapon. The unprincipled aggressor nations would certainly use this weapon, if they had it, quite independent of whether we had used it or not. No, on the contrary, I think that this calamity, which has been a real possibility for some time now, is made definitely less likely by our development and use, rather than more likely. We have proved, in the one way which would be credited by some, that we are ahead in this matter. And this gives us, for a precious moment of history, a powerful and compelling opportunity.

Indeed what we have on our side now is time. Eventually every one will solve the riddle of atomic power. But for a critical two to five to ten years this secret rests with the United States and England. Allied with us are Russia and China and France and the rest. As never before, the world wants peace. As never before, we all recognize the necessity for a world organization

Letter from Warren Weaver
to Raymond B. Fosdick
September 10, 1945

Program and Policy - Atomic Energy, *1945–1947*

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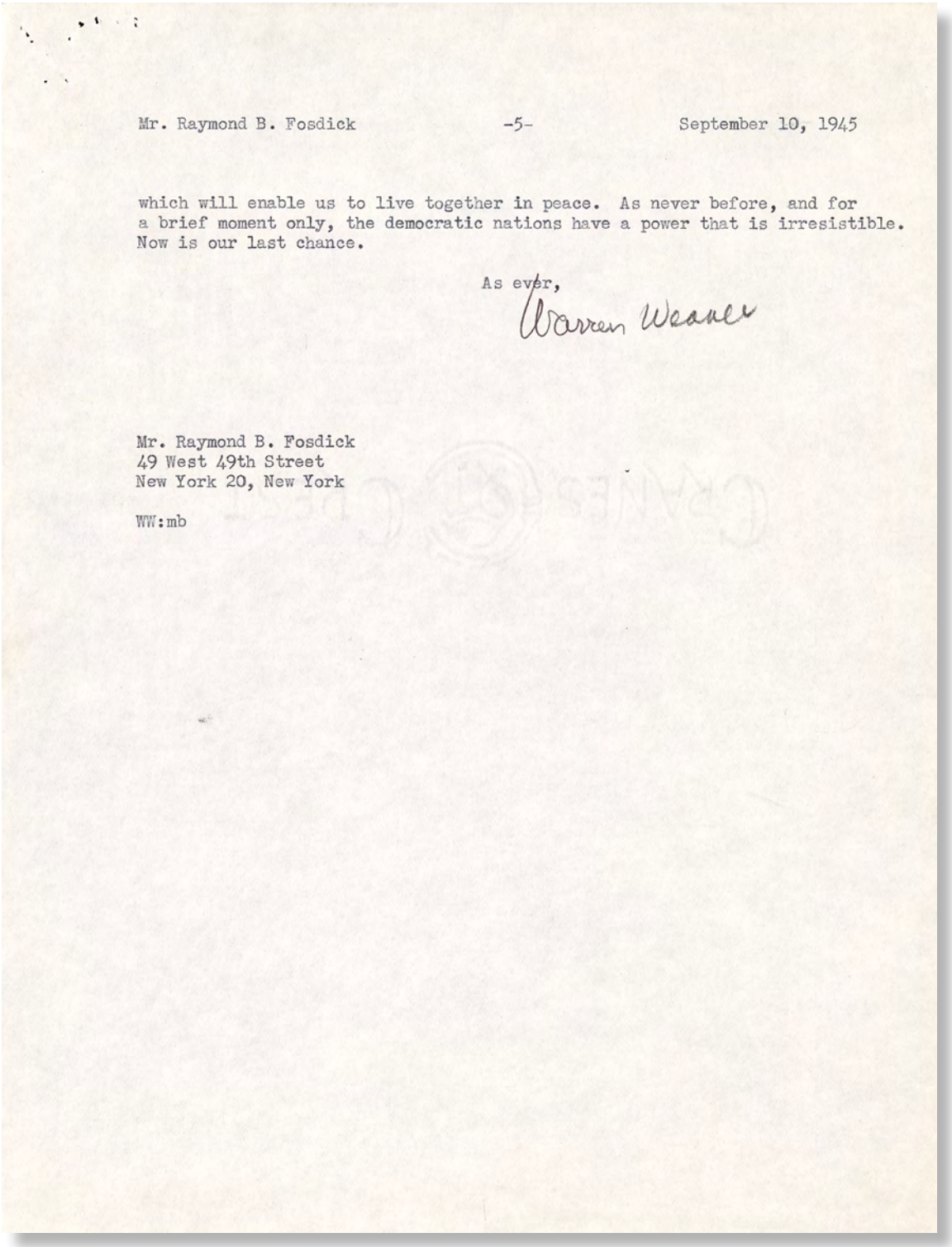

Mr. Raymond B. Fosdick -5- September 10, 1945

which will enable us to live together in peace. As never before, and for a brief moment only, the democratic nations have a power that is irresistible. Now is our last chance.

As ever,

Warren Weaver

Mr. Raymond B. Fosdick
49 West 49th Street
New York 20, New York

WW:mb

Letter from Warren Weaver
to Raymond B. Fosdick
September 10, 1945

Program and Policy - Atomic Energy, *1945–1947*

Rockefeller Foundation records; Administration, Program and Policy - Record Group 3; Subgroup 3.2; General Program and Policy - Series 900; Rockefeller Archive Center.

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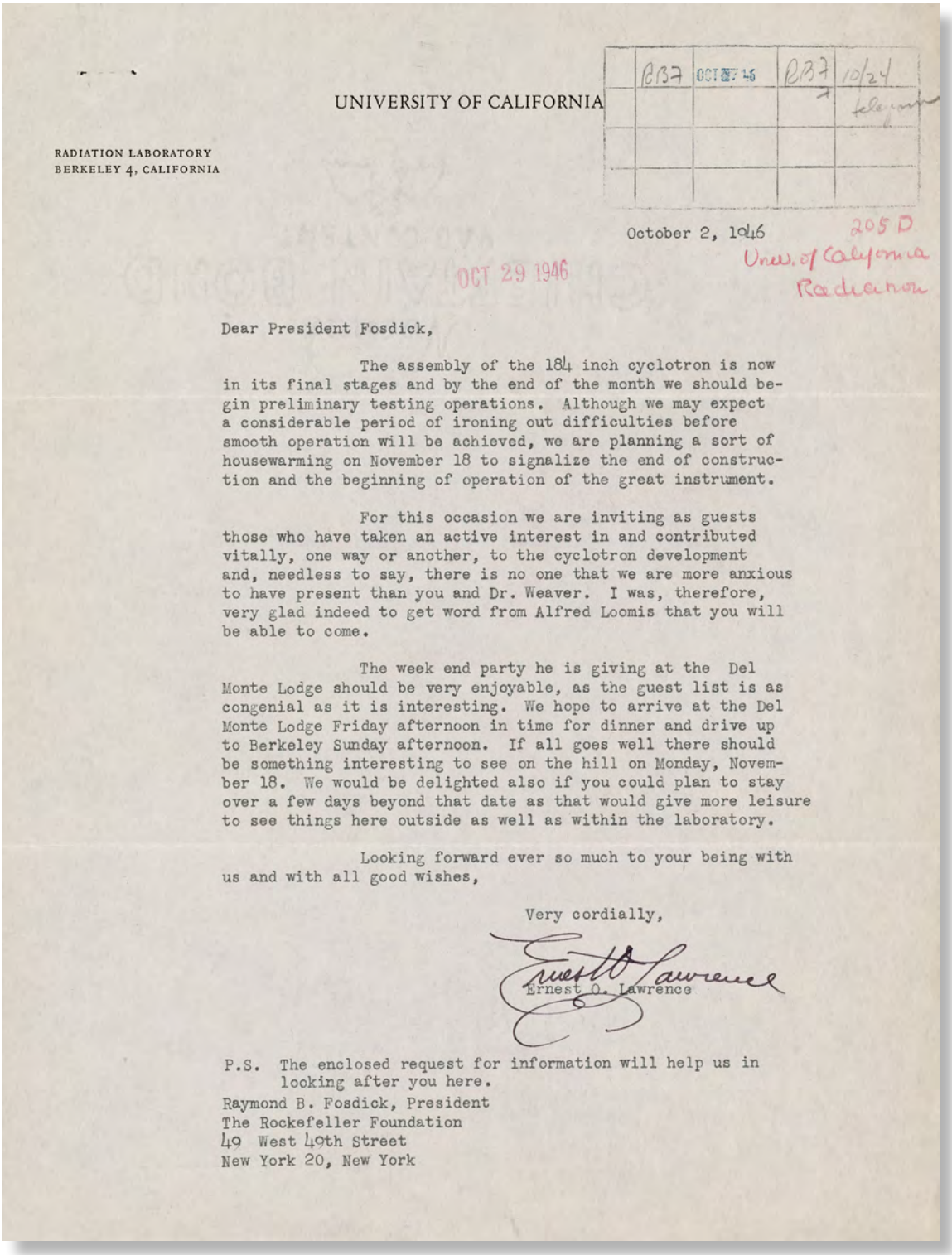

UNIVERSITY OF CALIFORNIA

RADIATION LABORATORY
BERKELEY 4, CALIFORNIA

RB7 OCT 46 RB7 10/24 telegram

October 2, 1946

205 D
Univ. of California
Radiation

OCT 29 1946

Dear President Fosdick,

The assembly of the 184 inch cyclotron is now in its final stages and by the end of the month we should begin preliminary testing operations. Although we may expect a considerable period of ironing out difficulties before smooth operation will be achieved, we are planning a sort of housewarming on November 18 to signalize the end of construction and the beginning of operation of the great instrument.

For this occasion we are inviting as guests those who have taken an active interest in and contributed vitally, one way or another, to the cyclotron development and, needless to say, there is no one that we are more anxious to have present than you and Dr. Weaver. I was, therefore, very glad indeed to get word from Alfred Loomis that you will be able to come.

The week end party he is giving at the Del Monte Lodge should be very enjoyable, as the guest list is as congenial as it is interesting. We hope to arrive at the Del Monte Lodge Friday afternoon in time for dinner and drive up to Berkeley Sunday afternoon. If all goes well there should be something interesting to see on the hill on Monday, November 18. We would be delighted also if you could plan to stay over a few days beyond that date as that would give more leisure to see things here outside as well as within the laboratory.

Looking forward ever so much to your being with us and with all good wishes,

Very cordially,

Ernest O. Lawrence

Ernest O. Lawrence

P.S. The enclosed request for information will help us in looking after you here.

Raymond B. Fosdick, President
The Rockefeller Foundation
49 West 49th Street
New York 20, New York

"Letter from Ernest O. Lawrence to Raymond B. Fosdick
October 2, 1946

University of California - Radiation, *March 1940–1950*

Rockefeller Foundation records; Projects (Grants) - Record Group 1; Subgroup 1.1; Series 100–257 - International and the United States; California - Series 205; National Sciences and Agriculture - Subseries 205.D; Rockefeller Archive Center.

ABOUT US

Laura Miller is a public historian and historical consultant based in Western Massachusetts. She specializes in research, writing, and oral history projects for history organizations and other nonprofits, and previously worked as a Historian at the Rockefeller Archive Center. Miller holds a PhD in History and MA in Public History from the University of Massachusetts Amherst.

Barbara Shubinski is the Director of Research and Engagement at the RAC where she leads a team of historians, educators, archivists, and designers in communicating the role philanthropy has played in shaping U.S. and global life. She holds a PhD in American Studies from the University of Iowa, master's degrees in Historic Preservation from the University of Vermont and in Anthropology from Stanford University, and a BA from the University of Virginia. Her research interests include the history of science, public health and agriculture.

Marissa Vassari is Education Program Manager at the Rockefeller Archive Center. She coordinates the Archival Educators Roundtable to facilitate communication among professionals who use primary sources in public outreach and teaching. She holds a BA in Psychology and Special Education, an MA in Childhood Education, and an MLIS degree with an Archival Studies specialization.

ABOUT US

The Rockefeller Archive Center (RAC) is a major repository and research center dedicated to the study of philanthropy. The RAC's Research & Engagement Program develops and makes available archive-based interdisciplinary projects and curricula for levels ranging from elementary to graduate study. These materials support the development of information literacy and research skills, as well as deeper engagement with history and historical practice. The program also works to strengthen the bridge between education and archives through workshops and discussions facilitated by the RAC-hosted Archival Educators Roundtable.

CONTACT

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Sleepy Hollow, NY 10591

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