

MINUTES OF REGULAR MEETING OF  
THE INSTITUTE FOR ADVANCED STUDY

January 29, 1934

A regular meeting of the Trustees of the Institute for Advanced Study was held at the Uptown Club, 60 East 42nd Street, New York City, on Monday, January 29, 1934.

Present: Messrs. Aydelotte, Edgar S. Bamberger, Louis Bamberger, Carrel, Flexner, Hardin, Leidesdorf, Stewart, Straus, Weed, Mrs. Fuld, and Miss Sabin.

Absent and excused: Messrs. Frankfurter, Friedenwald, Houghton, and Maass.

In the absence of the Chairman and Vice-Chairman, Mr. Aydelotte was requested to preside.

The minutes of the meeting held on October 9, 1933, having been distributed, their reading was dispensed with, and they were approved.

The following report was presented by the Director and, on motion, was accepted and ordered to be incorporated in the minutes of the meeting:

The last meeting of the Trustees of the Institute was held on October 9 at a time when the Institute, as a separate educational agency, was just one week old. Since then several months have passed, and I have had the opportunity of seeing what was recently a dream realize itself in fact. It is interesting, however, after so short a practical experience to compare what is happening with what was in our minds during the two years when we were

discussing and making plans.

In the first instance, there is a notable paragraph in the letter which Mr. Bamberger and Mrs. Fuld addressed to their Trustees, which I hope will hereafter be printed on the fly-leaf of the successive bulletins of the Institute. This paragraph reads as follows:

"It is fundamental in our purpose, and our express desire, that in the appointments to the staff and faculty, as well as the admission of workers and students, no account shall be taken, directly or indirectly, of race, religion, or sex. We feel strongly that the spirit characteristic of America at its noblest, above all the pursuit of higher learning, cannot admit of any conditions as to personnel other than those designed to promote the objects for which this institution is established, and particularly with no regard whatever to accidents of race, creed, or sex."

The men who have formed the faculty of the Institute and who had the responsibility of admitting workers have without one word of caution or discussion lived up to the wish of the founders both in letter and spirit. The staff of the Institute, in the first place, consists of five professors. Two are Americans by birth, two are Germans by birth, one is a Hungarian - a clear proof that nationality has had nothing to do with the choice of the faculty. The men were selected because they were the most eminent and promising that could be obtained, with the result that, added to the group which Princeton University had already assembled, Princeton has become perhaps the most prominent mathematical center in the world today. A similar statement can be made as to creed. No one asked a question on the subject when the appointees were being canvassed. It has turned out that there are three persons of Christian origin and two of Jewish origin, though one of the Christians has a Jewish wife. Among the assistants attention may be called to the fact that the professors have been free to select such assistants as they chose with the result that three are of Jewish and two of Christian extraction. One of the Christian professors has a Jewish assistant. It is therefore obvious that in this

respect also the wish of the founders has been respected and that young men have been chosen absolutely regardless of all irrelevant factors. One question has been asked, namely: Are you a promising young mathematician? If so, you are eligible. The body of workers, now totalling 21 in number, is similarly constituted. There is a Russian, who has not, however, as yet arrived in Princeton but is expected shortly, an Austrian, a German, an Englishman, who holds a post in Scotland, a Dutchman, and the rest are Americans of diverse origin. They come from every section of the country and represent a great variety of racial and religious origins. Thus at every stage from the full professors down to the workers the noble purpose of the founders has been accomplished and a cosmopolitan and tolerant group, bent solely upon their own training and upon productivity in the field of mathematics, has been brought together.

With the cooperation of Dean Eisenhart and his associates Fine Hall has offered abundant opportunity to cultivate delightful social relations in this highly varied group. Every afternoon tea is served, and there is an attendance of 60 to 75 mathematicians, who discuss with one another the subjects upon which they are working and sometimes fortunately subjects which have no direct relation to their work. Once a week a mathematical club assembles to hear a paper presented by some member of the club - occasionally a professor, occasionally one of the workers. The attendance is so large and enthusiastic that the largest lecture room in Fine Hall has had to be used, and even this does not always furnish seats for every person attending. An outsider would find it extremely difficult to tell who is a professor and who is a worker. The workers are often persons busy in fields in which none of the professors has been productive with the result that

members of the entire group are engaged in teaching one another. The attendance at these meetings of the mathematical club has sometimes reached almost 100, and discussions have lasted from one to three hours. I myself once called upon Professor Einstein at his home about seven in the evening only to find that he had not yet returned from a meeting of the mathematical club. The interest, enthusiasm, ability, and numbers far exceed anything that anyone could have expected at the outset. There is another respect in which I myself have been astonished. I had supposed that the workers would be mainly young men and women who had recently obtained a Ph.D. degree and who had given evidence in their graduate school work of mathematical promise. As a matter of fact, there are only two in the 21 who are recent Ph.D.'s. All the others have already been teaching. Some of them have reached the rank of associate professor or assistant professor in the most prominent institutions of this country and Europe. They have been at work for as much as eight or ten years, during which they have made notable contributions to mathematics. They are drawn to Princeton by the opportunity to get a year of release from routine work and to spend it under the inspiring leadership of the distinguished mathematicians, whom the two institutions have assembled there. They are variously financed. Some of them pay their own way entirely and the tuition fee besides. Others are sent by the National Research Council, to which the Rockefeller Foundation makes an appropriation for the purpose, others by the Rockefeller Foundation, still others have been granted leave of absence on half pay by their own institutions, despite the fact that these institutions are hard pressed financially, and in these instances the Institute has made a grant-in-aid. Already applications have been received for next year from men who have reached the position of associate professor in the

most prominent institutions in the United States. I confess that I myself did not expect that so promptly we should attract scholars who will probably ten years hence be the leading figures in the mathematical world.

One afternoon I was talking with a German regarding the terrible havoc that the present German Government had wrought in destroying the great mathematical center, which during the last one hundred years had been built up at Göttingen. He replied, "It is of course fatal for Göttingen but not for mathematics, for now we have Princeton." - meaning of course the mathematicians of the two institutions located there. If now, as from time to time we create additional schools, we can keep up to the level which we have established in mathematics, and if we can preserve the level at which we have begun in mathematics, the Institute in cooperation with the University will in a much briefer period than I had supposed become a Mecca to which advanced workers will resort from all corners of the civilized world.

I have made it a point to keep in touch with both the workers and teachers in an informal social way so as to find out whether the workers are getting the opportunities they deserve and whether the staff sees any defects which could reasonably be remedied. There is, I think, no disposition whatsoever to increase the number of permanent professors. The small group of high quality is enough to insure the continuity, but there is a general feeling that the Institute could be strengthened at a comparatively small outlay if a sum were available not exceeding perhaps \$500 or \$1,000, which could be used to bring to Princeton mathematicians and mathematical visitors who come to America to lecture at other institutions and who would be glad to come to Princeton to give the group the benefit of their latest investigations, provided only their traveling expenses and a small honorarium, perhaps \$25 or \$50, were paid. Something of the same

kind is true of a visiting professor. Mathematics is much too wide a field to be covered by permanent appointees. On the other hand, it is not necessary that men should be in permanent positions in order that they may bring the new and stimulating inspiration of their research to so highly trained a body as the professors and students at Princeton. It has been suggested therefore that the sum of \$10,000 should be provided so that some outstanding figure or figures could be brought to Princeton to spend half a year or an entire year lecturing on results obtained in fields which are of vital importance to the Princeton group. For example, two Nobel Prizes have been given in recent months - one to a German, one to an Englishman for work in mathematical physics. This work goes beyond anything, so I am told, that has been done in the United States, and its results are not well known in this country. The probabilities are that one or both these men could be brought to Princeton and that through a course of lectures or seminars and through informal intercourse the Princeton group could be made thoroughly familiar with the work which has won this great international distinction. I may add that Princeton University has done something of this kind in the past. Professor Einstein, for example, paid his first visit to the United States as a visiting professor at Princeton. A few years ago Professor Weyl came in the same way from Göttingen, and it was on the basis of the reputation that he made then that our own group was so anxious to add him to its numbers.

If these two suggestions are approved, I shall include items covering them in the next budget. It is a most economical and elastic way of enlarging our faculty. If, as I hope, the Board will make an appropriation which will enable us to bring Professor Dirac, the English Nobel Prizeman in mathematical physics, to the Institute for a year, it

is important that there should be in the group next year at least two young Americans, who have won some distinction in the same field, for sooner or later we shall have to develop in this direction. Experimental physics is not only expensive but is a subject which we need not touch, since it is highly cultivated in many American universities and in some certain industries, but theoretical or mathematical physics, upon which experimental physics rests, is relatively undeveloped in this country. We have therefore an opportunity to make a very important contribution at a relatively small outlay. I shall suggest an appropriation not to exceed \$10,000, of which we may not have to spend more than \$5,000 in order to bring to the Institute for a single year the two most promising Americans in this field. Working with Professor Einstein and Professor Dirac, they would have an opportunity to show whether they can meet the standard which has already been set by the previous appointments in the field of pure mathematics. If so, we can, whenever we are ready, make this necessary extension at a minimum outlay.

Under existing financial conditions it is necessary to continue the grants-in-aid by which we have been enabled to cooperate with universities which have done all in their power when they have granted leave of absence on half pay to some of their best men. This particular type of aid will of course shrink when the general financial situation has improved. By way of example, I can say that during the present year we are making a grant-in-aid to an associate professor in the Johns Hopkins University. So great has been his enthusiasm and so marked the benefit which he has derived that the Johns Hopkins University has already intimated to us that next year they propose to send another associate professor on full pay, thus relieving the Institute of any expense whatsoever after a single year's experience.

I may add still another incident which shows how quickly the new School of Mathematics has received international recognition. With the downfall of the great university centers in Germany it became necessary in Europe to establish a new international journal of mathematics. This task was undertaken by a group of Dutch mathematicians. On the Board of Editors there are five Americans: of them, two, Eisenhart and Lefschetz, are professors in Princeton University; two, Veblen and von Neumann, professors in the School of Mathematics of the Institute; one, now at Yale, was at Princeton last year. Thus four of the five American representatives on this international board are now at Princeton, and the fifth left Princeton last year to go to Yale.

Professor Weyl arrived in Princeton on the first of December and at once began to work in the Institute, arranging a course of lectures and opportunities for informal conference. He chose as his assistant a Princeton advanced student, Dr. Nathan Jacobson, who is highly regarded not only in Princeton but by young mathematicians throughout the country.

In order that the members of the two groups might mingle freely and thus profit from the interchange of ideas, my wife and I have taken several steps. On one occasion we brought all the workers together, and they spent an entire afternoon getting acquainted with one another and forming agreeable, social contacts. In the second case, we brought the professors of the two institutions together in the evening, and on a third occasion we brought together the professors of the Institute and the members of the Board of Trustees. Unfortunately, it was not possible for all the members of the Board of Trustees to be present, but I am hoping that perhaps during the spring something can be arranged in New York, for it seems to be easier for the professors to come from Princeton than

for the Trustees to go there. In addition, my wife and I have each Sunday afternoon received at an informal tea workers in the fields of mathematics and physics in the two institutions. Thus social contacts have undoubtedly done much to break through the ice and to bring these men, young and old, together on a basis of intellectual and scientific equality.

I have continued my inquiries and reflections on the subject of the School of Economics and Politics. I do not see why we should not next year do in this field what we did last year in the field of mathematics, that is, make a single appointment of some person of outstanding importance, on whose judgment and cooperation I can rely, as I relied on Professor Veblen so largely, in bringing together a School of Mathematics. While I have no desire to move hastily, I realize very deeply that the greatest service that I can myself perform during my tenure of office is that of bringing together the persons on whose abilities and devotion the fate of the Institute depends. I have no anxiety now as to the School of Mathematics. That is a solid achievement. If I could feel that in the next few years, we could do something similar in the field of economics and politics, I shall have made the highest contribution that I can make to the quality and permanence of the Institute, and I shall be easier in mind if two schools are in operation rather than one.

In conclusion, let me say that I have a feeling as if the mist had risen, that what we saw more or less dimly as a vision when the Institute was first conceived is beginning to stand out clearly defined in the sunlight as a feasible and, if we are careful, a notable addition to the weapons which the human race must use in its war on ignorance, intolerance, and fanaticism.

Mr. Hardin, Chairman of the Finance Committee, stated that the report of the Treasurer would cover the general subject of finance. In addition, he stated that the Institute owned \$89,000. face value of mortgages purchased from the Fidelity Union Title and Mortgage Guaranty Company, these mortgages being individually guaranteed by that Company; that the Company was in financial difficulty and its affairs being administered under direction of the Court of Chancery of New Jersey; that the guarantees were without substantial value at the present time; that it was the judgment of the Finance Committee that the mortgages should be withdrawn, if such withdrawal could be arranged, and the guarantees released and complete control of the mortgages assumed by the Institute in its own right as mortgagee; and that after such withdrawal and release the Finance Committee would like authority in its discretion, if to the interest of the Institute, to negotiate with the mortgagors for a lower rate of interest. Thereupon, on motion, it was

RESOLVED, That authority be and hereby is given to the Finance Committee to withdraw from the Guaranty Company all mortgages guaranteed by the Fidelity Union Title and Mortgage Guaranty Company, and to surrender on behalf of the Institute all contracts of guaranty; and that authority be given also, after such withdrawal and release, to reduce the rate of interest on any mortgage, if deemed by the Finance Committee to be in the interest of the Institute.

The Treasurer reported that the income of the first six months of our fiscal year, that is, from July 1 to December 31, 1933, was \$123,645, while the expenses during the same period amounted to \$53,104; that the income for the balance of the academic year, to June 30, 1934, would be approximately the same, but that expenditures would approximate \$70,000 because the salaries of many members of the faculty had not begun until the autumn of 1933. In other words, the Institute would probably spend approximately 60% of the

income for the next six months of the year. The Treasurer stated that the cash in bank and market value of securities as of December 31, 1933, was in excess of \$4,500,000. On motion, the report of the Treasurer was accepted.

The Director stated that Professor Weyl had been under great expense in moving his goods, especially his library, from Göttingen to Princeton and in bringing his family to the United States. Thereupon, on motion, it was

RESOLVED, That a sum not to exceed Four thousand five hundred Dollars (\$4,500.00) be and hereby is appropriated in order to reimburse Professor Hermann Weyl for such expenses as he incurred in moving from Germany to the United States.

The Director, carrying out the suggestions contained in his report, moved that Professor P. A. M. Dirac of the University of Cambridge be invited to be visiting professor in the School of Mathematics for the year 1934-1935, whereupon it was

RESOLVED, That Professor P. A. M. Dirac of the University of Cambridge, be invited to the Institute for Advanced Study as visiting professor for the year 1934-1935 at a salary of Ten thousand Dollars (\$10,000.00).

On motion, it was further

RESOLVED, That a fund up to the sum of Twenty thousand Dollars (\$20,000.00) be and hereby is available for grants-in-aid, this amount to be included in the budget for 1934-1935.

RESOLVED, That a fund up to One thousand Dollars (\$1,000.00) be and hereby is available for paying the expenses and honoraria of visiting professors or lecturers to the Institute, this amount to be included in the 1934-1935 budget.

RESOLVED, That the sum of Ten thousand Dollars (\$10,000.00) be included, if necessary, in the budget for 1934-1935 so as to enable the Institute to develop in the direction of theoretical or mathematical physics.

After discussion regarding possible developments in the field of economics and politics, it was, on motion,

RESOLVED, That the Director be and hereby is authorized in his discretion to present at the April (1934) meeting of the Board of Trustees a nomination in the School of Economics and Politics with the terms and conditions necessary to secure the ablest available scholar in that field.

The Chairman announced the appointment of the Committee on Nominations to report at the annual meeting as follows:

Mr. Samuel D. Leidesdorf, Chairman  
Mr. Percy S. Straus  
Mr. Walter W. Stewart  
Honorary Trustees  
Chairman  
Vice-Chairman

On motion, it was

RESOLVED, That Mr. Hardin be and hereby is instructed to obtain permission from the Board of Education of the State of New Jersey in order that the Institute may, if it desires, be in position to grant degrees.

There being no further business, on motion, the meeting adjourned.