

1941 JULIUS ROSENWALD FUND FELLOWS

Name David Harold Blackwell

Present position Instructor in mathematics and physics

Address Southern University, Scotlandville, Louisiana

Permanent address 1301 West Clark Street, Urbana, Illinois

Since your fellowship was awarded, have you received a promotion in rank? If so, please describe.

Degree received during fellowship tenure, or since, or progress made toward degree.

Title of dissertation _____

Publications, if any. (Please give titles, date, and place of publication.)

Idempotent Markoff Chains , Annals of Mathematics, July 1942

Special honors or activities _____

If in armed service, please give details. _____

General remarks Since holding a Rosenwald Fellowship I have worked

for the Office of Price Administration as an assistant statis-

tician, which position I resigned recently to accept my present

one.



FELLOWSHIPS

September 9, 1942

Dear Mr. Blackwell: Thank you for your letter of September 3. It has come in time to be useful in compiling material for the report, and I thank you.

The Southern University letterhead raises another question, and I will appreciate having an immediate reply. Are you now teaching at Southern, and if so, will you please tell me your title? If you have changed posts, and no longer have a connection with the Office of Price Administration, we will appreciate knowing, as we like to keep our address files up to date.

Very truly yours,
MARGARET L. UTLEY

MLU

Secretary to Mr. Haygood

Mr. David Blackwell
Southern University
Scotlandville, Louisiana

FISK
UNIVERSITY

SOUTHERN UNIVERSITY
F. G. CLARK, PRESIDENT
SCOTLANDVILLE, LA.
September 3, 1942

FELLOWSHIPS

OFFICE OF THE LIBRARIAN

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Dear Miss Utley:

Please pardon my delay in answering your letter; it was just forwarded to me. The Ph. D. was granted to me by the University of Illinois in June, 1941, and the title of my dissertation was Some Properties of Markoff Chains. I hope this information reaches you in time for the report.

I would like very much to have a copy of the report, and hope you will send me one at the above address.

*You can't list
mu*

Yours truly,

David Blackwell

David Blackwell

FISK
UNIVERSITY

FELLOWSHIPS

August 19, 1942

Dear Mr. Blackwell: We are preparing material for the published report of the Fund, in which a list of Fellows for the past two years will be printed. We have never definitely cleared with you the granting by the University of Illinois of your Ph. D. degree, and as we need this information in the very near future, I will appreciate your letting me know at once. Will you also include in your note the title of your dissertation?

I hope all goes well with you in the Washington position.

Very truly yours,
MARGARET L. UTLEY

Secretary to Mr. Haygood

Mr. David H. Blackwell
2418 Hopkins Street, N. W.
Washington, D. C.

FISK
UNIVERSITY

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J. C. WILLEVER
FIRST VICE-PRESIDENT

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

Mr. David Blackwell

School of Mathematics

Institute for Advanced Study

Princeton, New Jersey

DAY LETTER

May 27, 1942

via Western Union

Please wire collect if you can see Mr. Arna Bontemps June fourth in accordance with my letter to you May 19. Can meet you either Princeton or Washington.

William C. Haygood

Rosenwald Fund

4901 Ellis Drex 7100 MLU

FISK UNIVERSITY

FELLOWSHIPS

May 4, 1942

Dear Mr. Blackwell: I received your interesting letter of April 26, and it will be entirely agreeable with us for you to leave the Institute for Advanced Study to accept the Washington job a few days early. In fact, all of us here are delighted that you are to be associated with the Office of Price Administration, and we send you our congratulations.

I am glad that the year at the Institute has been a productive one. You have by this time received the list of this year's fellowship awards, and I am sure you were interested to see the number of appointments the Committee made in the field of mathematics.

When you get settled in Washington, I hope you will drop me a line so that we can keep your address on file.

Sincerely yours,

WCH:MLU

WILLIAM C. HAYGOOD

Mr. David Blackwell
The Institute for Advanced Study
Princeton, New Jersey

FISK
UNIVERSITY

	WCH 78	WCH 4	

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

April 26, 1942

FELLOWSHIPS

Mr. William C. Haygood
Director for Fellowships
Julius Rosenwald Fund
4901 Ellis Avenue
Chicago, Illinois

Dear Mr. Haygood:

My work here at the Institute is practically completed, and I am deeply grateful to the Julius Rosenwald Fund for enabling me to spend a very pleasant and profitable year doing research work in mathematics.

My contacts with Professors Doob and von Neumann here have been exceedingly stimulating in connection with my research work in Markoff Chains. Some of the results of my work are to appear in the Annals of Mathematics soon in a paper called Idempotent Markoff Chains. I have recently obtained some further results, including some extensions of the work of the French mathematician Doeblin, and I expect these to be published soon. In addition to this work, I have benefitted immeasurably from contact with the many outstanding mathematicians here, and I hope that this will be reflected in my future scientific work.

I would like to leave a few days before the Institute closes officially, as I have received an appointment as Assistant Statistician in the Research Division of the Office of Price Administration in Washington. The work which I shall be doing there, incidentally, may be somewhat related to the work I am now doing, as Markoff Chains have some applications to the statistical analysis and interpretation of economic data. I hope that this arrangement will be satisfactory to you.

Again I wish to thank the Rosenwald Fund for allowing me the splendid opportunity to spend a year at the Institute. I hope it will be possible for other Negro mathematicians to have a similar opportunity in the future.

Sincerely yours,

David Blackwell

David Blackwell

PRINCEPS
UNIVERSITY

Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To
Mr. David Blackwell
School of Mathematics, Institute for Advanced
Study
Princeton, New Jersey

Payment Voucher No. 4506

Date April 30, 1942

Final payment on fellowship granted 4/11/41 - - - - - \$137.50

Chk. #26770

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

Prepared by	Checked by	Posted by	Comptroller
AM			



Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To

Mr. David H. Blackwell

School of Mathematics
Institute for Advanced Study
Princeton, New Jersey

Payment Voucher No. 4382

Date March 31, 1942

Eleventh installment on fellowship grant - - - - - \$137.50

Ck. #26629

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

Prepared by AM	Checked by	Posted by	Comptroller
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Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To

Mr. David Blackwell
School of Mathematics
Institute for Advanced Study
Princeton, New Jersey

Payment Voucher No. 4220

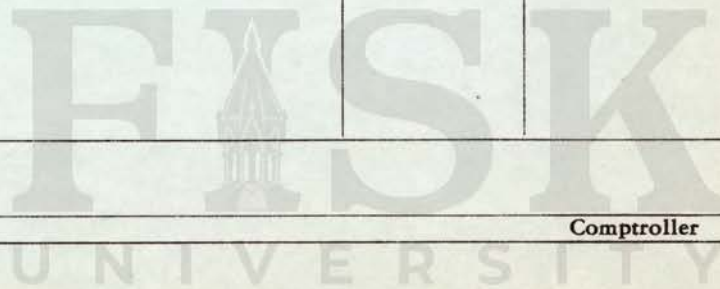
Date February 27, 1942

Tenth installment on fellowship grant - - - - - \$137.50

Chk. #26449

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

Prepared by	Checked by	Posted by	Comptroller
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FELLOWSHIPS

February 24, 1942

Dear Mr. Blackwell: I did not answer your letter of February 12 because of absence from the office, and I note in a letter from you today that the trip to California will not materialize. We do not have provisions for this kind of aid to fellowship holders, so that I would have had to write a negative letter in any event. However, I am greatly pleased to know that there is a possibility that you may be appointed as an instructor in mathematics in the University of California next year. I hope you will keep us in touch with further developments.

Sincerely yours,

WCH:McK

WILLIAM C. HAYGOOD

Mr. David Blackwell
The Institute for Advanced Study
School of Mathematics
Princeton, New Jersey

FISK
UNIVERSITY

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

FELLOWSHIPS

February 19, 1942

Mr. William C. Haygood
Director for Fellowships
Julius Rosenwald Fund
4901 Ellis Avenue
Chicago, Illinois

	WCH	23	WCH	23

Dear Mr. Haygood:

I have just had a letter from Professor Neyman of the University of California stating that he will be in New York sometime in March. In view of this it will be unnecessary for me to make the trip I mentioned to you in my letter of last week. Of course I withdraw my request for an addition to my stipend.

Yours truly,

David Blackwell

David Blackwell

THE INSTITUTE FOR ADVANCED STUDY

SCHOOL OF MATHEMATICS

PRINCETON, NEW JERSEY

February 12, 1942

FELLOWSHIPS

Mr. William C. Haygood
Director for Fellowships
Julius Rosenwald Fund
4901 Ellis Avenue
Chicago, Illinois

	Ward	14	Woff	23

Dear Mr. Haygood:

I am planning to make a trip soon to the University of California at Berkeley. While there I am to talk to the mathematics club on my work in Markoff Chains and to discuss certain aspects of my work with Professor Neyman there.

There is a chance that I may be appointed as an instructor in mathematics there and research associate to assist Professor Neyman next year. This will of course be a wonderful opportunity for me to continue the work I am now engaged in, and I expect to discuss this matter fully with Professor Neyman and other members of the department while there. I shall probably be away from the Institute about three weeks. I hope that it will be satisfactory with you for me to make the trip.

This trip is unexpected and was not allowed for in the budget I submitted in my application for a Rosenwald Fellowship. My traveling expenses will be about \$125.00. Would it be possible for you to grant me this additional sum from the Rosenwald Fund to make the trip?

I am hoping for an early reply as I should like to leave soon.

Yours truly,

David Blackwell

David Blackwell

FISK
UNIVERSITY

Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To

Mr. David H. Blackwell
School of Mathematics
Institute for Advanced Study
Princeton, New Jersey


Payment Voucher No. 4090

Date January 30, 1942

Ninth installment on fellowship grant - - - - - \$137.50

Cx. #26316

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

Prepared by	Checked by	Posted by	
AM			

Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To

Mr. David H. Blackwell
School of Mathematics
Institute for Advanced Study
Princeton, New Jersey

Payment Voucher No. 3964

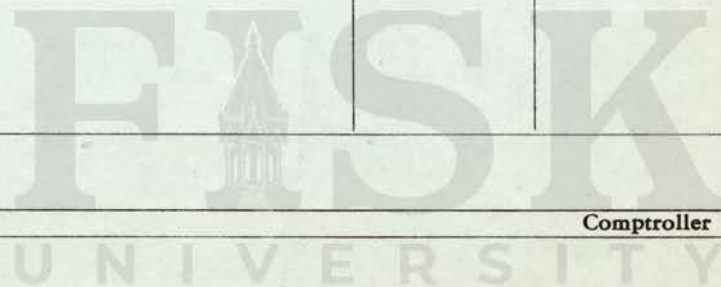
Date December 31, 1941

Eighth payment on fellowship grant - - - - - \$137.50

Ck. #26170

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

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Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To

Mr. David H. Blackwell
School of Mathematics
Institute for Advanced Study
Princeton, New Jersey

Payment Voucher No. 3797

Date November 28, 1941

Seventh payment on fellowship grant - - - - - \$137.50

Ck.#25968

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

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AM

Checked by

Posted by



Comptroller

Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

To

Mr. David H. Blackwell

School of Mathematics
Institute for Advanced Study
Princeton, New Jersey

Payment Voucher No. 3634

Date October 31, 1941

FELLOWSHIPS

Sixth installment on fellowship grant - - - - - \$137.50

Ch.#25853

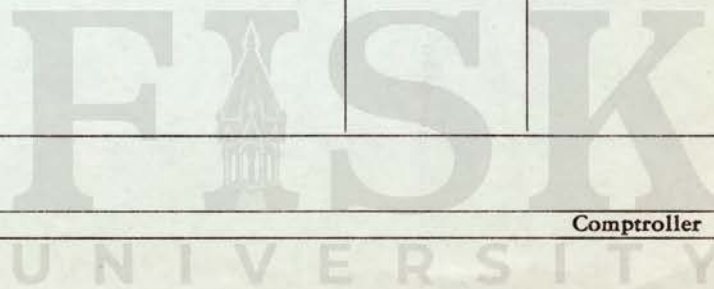
Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

Prepared by
AM

Checked by

Posted by

Comptroller



Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To

Mr. David H. Blackwell
School of Mathematics
Institute for Advanced Study
Princeton, New Jersey

Payment Voucher No. 3507

Date September 30, 1941

Fifth installment on fellowship grant - - - - - \$137.50

Ch. #25657

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

Prepared by AM	Checked by	Posted by
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Comptroller

FELLOWSHIPS

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THE INSTITUTE FOR ADVANCED STUDY

Founded by Mr. Louis Bamberger and Mrs. Felix Fuld

PRINCETON, NEW JERSEY

September 10, 1941

Dear Embree:

I am delighted to tell you that Blackwell has arrived at the Institute, is safely installed in what he reports to be very satisfactory quarters, and has already begun work. He knows a number of our members and seems already to feel very much at home.

I am delighted that you are reviewing the Swarthmore faculty book. I never saw it until it actually appeared in print and when I read it I thought it the most delightful thing of its kind I had ever seen or heard of. I look back on those nineteen years at Swarthmore with the greatest possible pleasure and satisfaction. While it was hard to leave, it was a satisfaction to me to stop while everything was going strong and when my contribution was definitely made. The affectionate associations with the members of the faculty and with the graduates I hope I shall always keep up, but I am also delighted now to have the opportunity of trying my hand at a new educational adventure for which, curiously enough, what I did at Swarthmore was a better preparation than I realized at the time. I hope very much to see you here before long to talk over a great many matters with you and to get your advice.

Yours sincerely,

Edwin R. Embree, Esq.
Julius Rosenwald Fund
4901 Ellis Avenue
Chicago, Illinois

Julius Rosenwald

FISK
UNIVERSITY

M L W r o

FELLOWSHIPS

September 10, 1941

Dear Mr. Blackwell: The September installment
 on your fellowship grant
is enclosed. We have been holding it since the
1st of the month waiting for your new address.
Additional payments will be sent at monthly
intervals to this address in Princeton until we
are notified of a change.

Very truly yours,

DOROTHY A. ELVIDGE

DAE:AM

Mr. David Blackwell
School of Mathematics
Institute for Advanced Study
Princeton, New Jersey

FISK
UNIVERSITY

FELLOWSHIPS

School of Mathematics
Institute for Advanced Study
Princeton, New Jersey

1/8

Miss Dorothy A. Elvidge
Julius Rosenwald Fund
4901 Ellis Avenue
Chicago, Illinois

DE	9/10	SE	9/10
M/LW		M/LW	0

My dear Miss Elvidge:

Will you please send the rest of the checks for my fellowship grant to the above address? In accordance with our previous arrangement, I am to receive the September payment now and subsequent payments on the first of each month.

I hope that the delay and change of address have not caused you too much inconvenience.

Yours truly,

David Blackwell

David Blackwell

*I have address -
am*

FISK
UNIVERSITY

FELLOWSHIPS

September 8, 1941

Dear Aydelotte: We have had no word from Mr. Blackwell for some weeks. He wrote us in April that he would like to spend the summer at the University of Illinois in order to work with Doctor Halmos, Doctor Ambrose, and Doctor Kakutani, all of the Institute staff, and we gladly gave him permission to do so. He expected to be in Princeton around the first of September.

I have just been reading, in order to review for the Saturday Review of Literature, the Swarthmore book issued in your honor. It is a delightfully done volume, a well deserved tribute to a fine man and a fine job.

I am still hoping to have a talk with you in the not distant future about the exciting new adventure in education at Princeton.

Very truly yours,
EDWIN R. EMBREE

ERE:MLU

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

FISK
UNIVERSITY

Swarthmore

see Sat Review Oct

FELLOWSHIPS

THE INSTITUTE FOR ADVANCED STUDY

Founded by Mr. Louis Bamberger and Mrs. Felix Fuld

PRINCETON, NEW JERSEY


EEB	8	EEB	8
		September 4, 1941	

Dear Embree:

Are you in touch with Blackwell and do you know whether he perseveres in his intention to come to the Institute for Advanced Study this year? I very much hope so but have been a little troubled because of the fact that we have had no word from him. I wrote to him about the matter on May 30 and have never had a reply to my letter. This may be merely an oversight due to the summer vacation, but if you see him or are in touch with him tell him that we hope he is coming and should be glad to know about when he plans to arrive.

With kindest regards, I am

Yours sincerely,



FRANK AYDELOTTE

President Edwin R. Embree
 Julius Rosenwald Fund
 4901 Ellis Avenue
 Chicago, Illinois

FA/MCE



Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To

Mr. David Harold Blackwell

School of Mathematics
Institute for Advanced Study
Princeton, New Jersey

Payment Voucher No. 3351

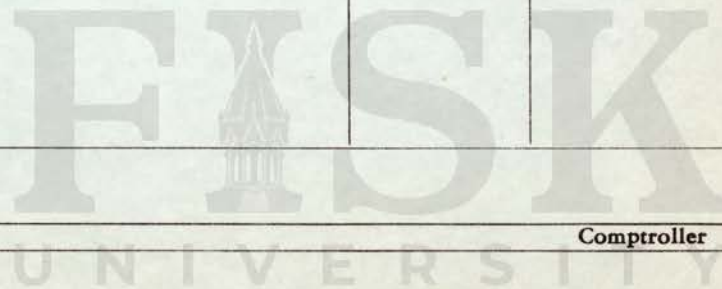
Date August 29, 1941

Fourth payment on fellowship granted 4/11/41 - - - - - \$137.50

Ck. #25483

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

Prepared by McK	Checked by	Posted by	Comptroller
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Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To

Mr. David H. Blackwell

1301 West Clark Street

Urbana, Illinois

Payment Voucher No. 3257

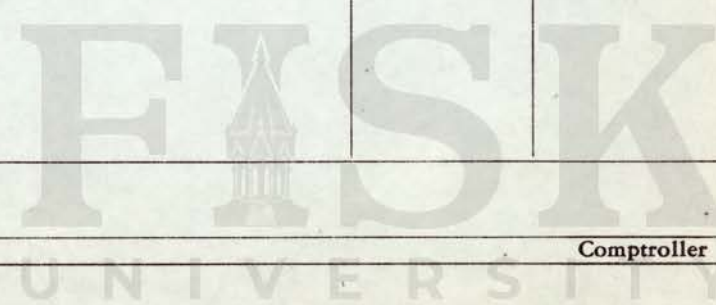
Date July 31, 1941

Third installment on fellowship grant - - - - - \$137.50

Ck.#25357

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

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Comptroller

Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To

Mr. David H. Blackwell

1801 West Clark Street

Urbana, Illinois

Payment Voucher No. 3222

Date July 1, 1941

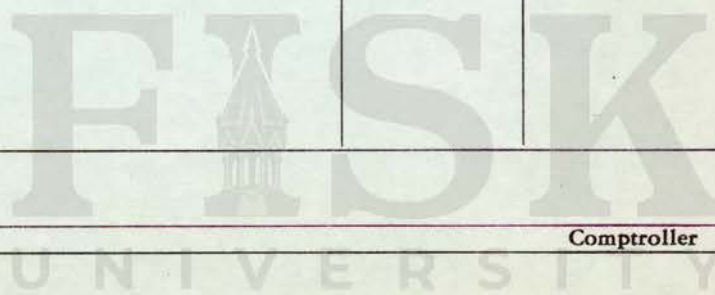
Second payment on fellowship grant - - - - - \$137.50

Ck.#25318

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	40-11	\$137.50	

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AM			

Comptroller



Julius Rosenwald Fund

4901 Ellis Avenue
CHICAGO

FELLOWSHIPS

To

Mr. David Blackwell
1801 West Clark Street
Urbans, Illinois

Payment Voucher No. 8029

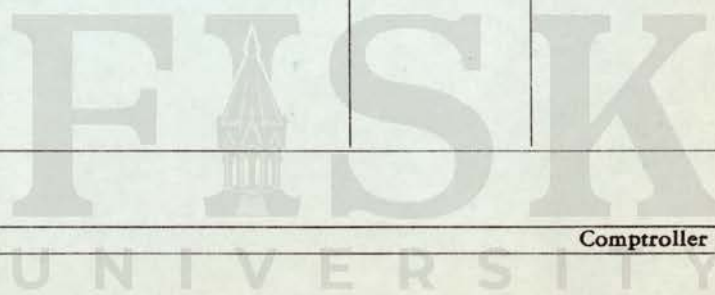
Date May 29, 1941

First payment on fellowship awarded 4/11/41 - - - - - \$187.50

Ck.#25108

Accounts	Appropriation No.	Debit	Credit
Negro Fellowships	59-7	\$ 96.27	
Negro Fellowships	40-11	41.23	
		<u>\$187.50</u>	

Prepared by AM	Checked by	Posted by
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Comptroller

Arkun
FELLOWSHIPS

May 29, 1941

Dear Mr. Blackwell: Enclosed you will find our
check for \$137.50 represent-
ing the first monthly installment on your fellowship
grant. I shall see that checks are mailed to you on
the first of each month. Checks for July and August
will be sent to your Urbana address, and after that to
the address you will send us in Princeton.

Very truly yours,

DOROTHY A. ELVIDGE

DAE:AM

Mr. David Blackwell
1301 West Clark Street
Urbana, Illinois

FISK
UNIVERSITY

FELLOWSHIPS

1301 West Clark Street
Urbana, Illinois
May 27, 1941

Miss Dorothy A. Elvidge, Comptroller
Julius Rosenwald Fund
4901 Ellis Avenue
Chicago, Illinois.

DE	5/28	DE	5/28
MLU		nu	0

Dear Miss Elvidge:

I expect to begin work under my fellowship on June 1 and would like to receive payment in equal monthly installments on the first of each month. The first three months of study under my fellowship are to be done at the University of Illinois, and I should like for the checks for June, July, and August to be sent to my present address. As soon as I become located in Princeton, which will be on about September first, I shall write to you concerning the disposition of later payments. I hope that this plan will be satisfactory to you.

Yours truly,

David Blackwell

David Blackwell

*12 payts + 137.50
I saw 5/29 check*

*3029
25108*

FISK
UNIVERSITY

FELLOWSHIPS

April 28, 1941

Dear Mr. Blackwell: When you are ready to begin work under your fellowship grant, kindly submit a payment plan that will meet your needs. It is customary for Fellows to prefer payment either in monthly or quarterly installments, but if another plan is more agreeable to you do not hesitate to suggest it.

Very truly yours,

DAE:H:U

DOROTHY A. ELVIDGE

Mr. David Blackwell
1301 West Clark Street
Urbana, Illinois

FISK
UNIVERSITY

FELLOWSHIPS

April 28, 1941

Dear Mr. Blackwell: I have been traveling between Washington and Chicago almost all of the past two weeks, hence my delay in replying to your letter of the 16th.

It will be entirely satisfactory with us for you to remain in Urbana for study during the summer with the three members of the staff of the Institute for Advanced Study who will be at the University of Illinois for the summer. We hope that nothing will interfere with your being at the Institute at Princeton during the coming academic year, however.

All good wishes to you.

Very truly yours,

GEORGE M. REYNOLDS

GMR:MLU

Mr. David Blackwell
1501 West Clark Street
Urbana, Illinois

FISK
UNIVERSITY

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	DE		56	4/28

FELLOWSHIPS

1301 West Clark Street
 Urbana, Illinois
 April 16, 1941

Mr. George M. Reynolds
 Director for Fellowships, Julius Rosenwald Fund
 4901 Ellis Avenue
 Chicago, Illinois

Dear Mr. Reynolds:

I am very happy to accept the Rosenwald Fellowship award. I expect to receive the Ph.D. in June and look forward to a year of profitable and productive study and research at the Institute.

Since I submitted my application for a fellowship, however, it has developed that three men from the Institute, namely Dr. Paul Halmos, Dr. Warren Ambrose, and Dr. Shizuo Kakutani, plan to be here at the University of Illinois this summer. They, together with Professor J.L. Doob of the University of Illinois (under whose supervision, as I mentioned in my application, I am now working and expect to continue working at the Institute next year), plan to conduct a seminar and to give lectures in probability here this summer. I believe, and Professor Doob believes also, that my attendance at the lectures and participation in the seminar would afford me invaluable scientific training in modern research techniques in probability theory.

I am therefore requesting that I be allowed to study for the first three months under the fellowship award at the University of Illinois. This arrangement would, I am certain, enable me to derive the greatest possible benefit from the subsequent nine months at the Institute and to make a contribution of greater scientific value as a result of the year's study.

I hope that you will find it possible to allow me to make this change in my program.

Sincerely yours,
David Blackwell
 David Blackwell



FELLOWSHIPS

THE INSTITUTE FOR ADVANCED STUDY

Founded by Mr. Louis Bamberger and Mrs. Felix Fuld

PRINCETON, NEW JERSEY

ERE	7		7
	March 5, 1941		
<i>Embree</i>		<i>Embree</i>	

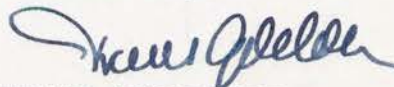
Dear Embree:

I am delighted to hear that you have under consideration an appointment for Mr. David Blackwell to work at the School of Mathematics of the Institute for Advanced Study during the academic year 1941-1942. I send you this line to say that it would be a great satisfaction to the members of our School of Mathematics to have Mr. Blackwell in residence here and I hope very much that his grant will go through.

In inviting Blackwell we have made it clear that the invitation comes from the Institute for Advanced Study and not from Princeton University. In many cases men who are working at the Institute find it profitable to attend courses in the Graduate School of Princeton University, and I thought it only fair that Blackwell should know that it is the set policy of the University not to admit Negroes. At the same time we have tried to make him understand very clearly that the Institute for Advanced Study makes no distinction on the basis of race, color, or creed, and that, because of his demonstrated ability in mathematics, he will be most welcome here.

With kindest regards, I am

Yours sincerely,



FRANK AYDELOTTE

President Edwin R. Embree
Julius Rosenwald Fund
4901 Ellis Avenue
Chicago, Illinois

FA/MCE

FISK
UNIVERSITY

February 2, 1941.

Dear Mr. Reynolds,

The situation at the Institute for Advanced Study has been complicated by the fact that practically all the lectures and seminars are held in Fine Hall, on the Princeton campus. I am sure that all the Institute officials are entirely free of racial prejudice. There is a story current, however, that one young Negro mathematician was unable to go to the Institute a few years ago, because of Princeton objections.

As soon as I decided that Blackwell was of Institute caliber, I wrote to Professor Veblen, the head of the mathematics section of the Institute, to make sure that Blackwell would be welcome. The answer was not too optimistic about the possibility of Blackwell's using Fine Hall, although Professor Veblen stressed that the Institute would be glad to have him. I therefore wrote that under those conditions Blackwell would go to "some place like Harvard, with a more northern tradition". Needless to say, I was not going to let the matter rest there, especially since at about that time the President of Princeton made a speech in which he described the training in democracy that Princeton students are to receive.

Apparently the Institute officials became more aggressive in support of a concept of democracy even broader than Princeton's, and I soon received a letter from Professor Veblen (a copy is enclosed) which I consider perfectly satisfactory. Since this letter was a personal letter to me, please use it for your own information or guidance only. I think if Blackwell went to Princeton, a new and more democratic tradition might be established.

Sincerely,



Copy

November 14, 1940

Dear Professor Doob:

After receiving your letter of November 1 I reread what I wrote you about Blackwell and I see that it is a fair inference from my letter that we could not guarantee that Blackwell would be admitted to those of our lectures which are held in Fine Hall in case the University made any objection. I have no reason to anticipate that the University will make any objection, and in any case am certain that every lecture course given by a Professor of the Institute will be open to him. We are very anxious to make the principle clear that there is no racial discrimination in the Institute and to demonstrate this by concrete examples. Therefore I hope very much that Blackwell will come to the Institute.

I hope that no feeling on Blackwell's part that he might cause us embarrassment will intervene, because the opposite is the case. I really think that he would be as happy here as he would be anywhere else.

Yours sincerely,

Oswald Veblen

FELLOWSHIPS

January 30, 1941

Dear Mr. Doob: Thank you very much for your full letter of recommendation concerning Mr. Blackwell. It is most helpful to us.

I am particularly interested in your statement that you have been assured that Mr. Blackwell will have no difficulty in carrying forward his study at the Institute for Advanced Study. I have been under the impression that a Negro student would not be welcome there and I am wondering what you can tell me regarding this change in policy.

Very truly yours,

GMR:MLU

GEORGE M. REYNOLDS

Mr. J. L. Doob
University of Illinois
Urbana, Illinois

FISK
UNIVERSITY

FELLOWSHIPS

GMP	18		

1301 West Clark Street,
Urbana, Illinois
December 16, 1940

Mr. George M. Reynolds,
Director for Fellowships, Julius Rosenwald Fund,
4901 Ellis Avenue,
Chicago, Illinois.

Dear Mr. Reynolds:

I am enclosing an application for a Rosenwald Fellowship for the year 1941-42. If any further material should be submitted by me, please let me know.

Can you tell me approximately the date when the winners of the Fellowships will be announced? I would appreciate this information very much.

Sincerely yours,

David Blackwell

David Blackwell

*this is on
ack. card*

JULIUS ROSENWALD FUND

4901 ELLIS AVENUE

CHICAGO

A

Confidential Report on Candidate for Fellowship

Name of Candidate Mr. David Blackwell
Report Requested of Mr. J. L. Doob
Department of Mathematics, University of Illinois, Urbana

The above-named candidate has applied to this Fund for a fellowship and has given your name as a reference. The candidate's plan of work is attached. Please return it with your statement.

We shall appreciate your frank opinion of this applicant's qualifications, and an appraisal of his plan of work and of his ability to make a noteworthy contribution in his field. *An early reply will be of great assistance in allowing the Fellowship Committee sufficient time for adequate consideration of the large number of candidates.*

We request candid and critical comment. Your reply will be held in strict confidence.

George M. Reynolds

Director for Fellowships

REPORT

Mr. Blackwell has been one of our most promising students at the University of Illinois throughout his undergraduate and graduate career. A graduate who received his Ph. D. a few years ago, and who is now doing research at the Institute for Advanced Study, considers him to be the best mathematician the University has ever produced. He is that rare combination: a very talented student with no mental quirks. He has gone through his undergraduate and graduate years, taking all courses and assignments in his stride, generally doing more than required. He has always been anxious to do independent reading, even when the material was in French or German, another most unusual trait. Blackwell is genuinely interested in research, and shows great aptitude for it. In his research under me, he almost

OVER

always instinctively divines the right mode of attack on any new problem. ~~At~~

At the present time, the Institute for Advanced Study is the mathematical center of the world. The intellectual atmosphere there is just what Blackwell needs to make him a mature scholar. He will be no passive student, but will be able to make his own contribution to the mathematical life there. The topics which interest him have been the subject of intensive research in universities all over the world, but much work remains to be done, and Blackwell will certainly be able to do an important part of it.

I have not yet mentioned the peculiar problems arising from Blackwell's color. When he finally starts his teaching career, he will be forced to accept a position at a Negro college, where he will be able to pursue mathematical research only with the utmost difficulty, because of lack of library facilities, etc. An opportunity to live in a research atmosphere for a year is therefore more necessary for Blackwell than for a white man of the same ability. (I stress however that I have been making no allowances for color. Blackwell will compare favorably with anyone at the Institute at his stage of advancement.) Other considerations also enter. At a time like this, all opportunities should be taken to refute current spurious race theories which are by no means confined to Central Europe. Blackwell is an excellent example of the fact that a Negro can have really creative ability in mathematics, and that even Princeton, a university with a profound southern tradition, is willing to encourage the development of this ability. (Most Institute lectures and seminars are on the Princeton campus. I have been assured that Blackwell will have no difficulty there, the assurance coming from an Institute official.)

I therefore most strongly urge that the Fund grant Mr. Blackwell a stipend to enable him to spend a year at the Institute for Advanced Study.

We request candid and critical comment. Your reply will be held in strict confidence.

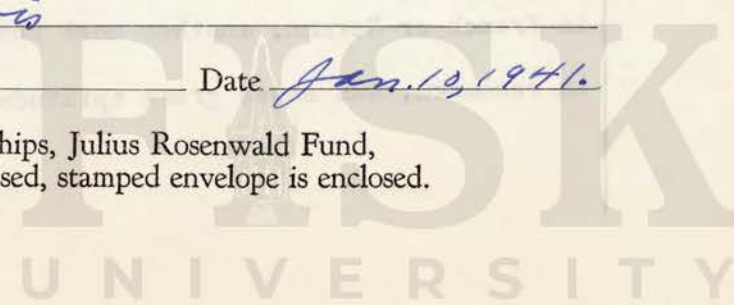
REPORT

Is the candidate free from personality handicaps which would make it difficult to obtain and hold a position giving him opportunity to utilize his abilities?

Mr. Blackwell is a likable young man with no personality difficulties of any sort. He is esteemed and liked by the faculty and by his fellow students, who elected him president of the local mathematics club.

Signed J. L. Daob
Position or Title Assistant professor of mathematics
Address University of Illinois
Urbana, Illinois Date Jan. 10, 1941.

Please return to the Director for Fellowships, Julius Rosenwald Fund, 4901 Ellis Avenue, Chicago, Illinois. Addressed, stamped envelope is enclosed.



JULIUS ROSENWALD FUND

4901 ELLIS AVENUE

CHICAGO

A

Confidential Report on Candidate for Fellowship

Name of Candidate Mr. David Blackwell
Report Requested of Mr. A. B. Coble
Department of Mathematics, University of Illinois, Urbana

The above-named candidate has applied to this Fund for a fellowship and has given your name as a reference. The candidate's plan of work is attached. Please return it with your statement.

We shall appreciate your frank opinion of this applicant's qualifications, and an appraisal of his plan of work and of his ability to make a noteworthy contribution in his field. *An early reply will be of great assistance in allowing the Fellowship Committee sufficient time for adequate consideration of the large number of candidates.*

We request candid and critical comment. Your reply will be held in strict confidence.

George M. Reynolds

Director for Fellowships

REPORT

In my opinion Mr. Blackwell is a young man of the highest promise. I have had no scientific contacts with him since his field of analysis is not closely related to my own in geometry. Thus I must depend entirely on the reactions of others to his work. However there has been no student in the department in recent years who has been so uniformly rated at the top of our list of graduate students as Mr. Blackwell. I am told that the faculty rating is confirmed by his fellow students who find that they can

OVER

JULIUS ROSENWALD FUND
1901 ELLIS AVENUE
CHICAGO

Confidential Report on Candidate for Fellowship

turn to him with entire confidence for help when difficulties arise in their work.

Mr. Blackwell is quiet and assuming, with a very nice personality and appearance, and every prospect for a successful career as a teacher.

With ^{respect to} the program of work which he has in mind I would myself be perfectly willing to accept the judgment of Professor Dool who is one of the few Americans competent to pass judgment upon it.

Is the candidate free from personality handicaps which would make it difficult to obtain and hold a position giving him opportunity to utilize his abilities? *Yes*

Signed A. B. Coble
Position or Title Prof. of Math. & Head of Dept.
Address Univ. of Ill.
Urbana, Ill. Date Jan 6 1941.

Please return to the Director for Fellowships, Julius Rosenwald Fund, 4901 Ellis Avenue, Chicago, Illinois. Addressed, stamped envelope is enclosed.

UNIVERSITY

Name David Harold Blackwell **Field:** Mathematics

Fellow in Mathematics
University of Illinois
1301 West Clark Street, Urbana

Plan of Work

To investigate the properties of non-temporally homogeneous Markoff chains.

Wishes to attend Institute for Advanced Study in Princeton, New Jersey, working under Dr. J. L. Doob (his professor at the University of Illinois). Seeks no degree. Probable duration of study one year, beginning June, 1941. Wishes to teach mathematics in a Negro college.

Summer at U of Illinois.

Personal Data Born Centralia, Illinois, April, 1919. Single. **Age:** 22

Undergraduate Work University of Illinois, A. B., 1938.

Graduate Work University of Illinois, A. M., 1939.

University of Illinois, Ph.D., probably, June, 1941.

Experience

Accomplishments Phi Beta Kappa, Sigma Xi.

Fellowships: University of Illinois, 1939-40, \$500; 1940-41, \$600.

References

Dr. J. L. Doob, University of Illinois
Dr. A. B. Coble, University of Illinois

Budget Summary

Total Amount Needed	\$1,650
From Applicant	---
From Fund	\$1,650

AMOUNT GRANTED

FILE COPY

UNIVERSITY



FISK
UNIVERSITY

David Blackwell

PLEASE RETURN
TO
JULIUS ROSENWALD FUND

Statement of plan of work

I propose to make a detailed study of Markoff chains and related topics in probability theory. A Markoff chain is a mathematical abstraction of certain aspects of a physical system which changes with time according to certain specified rules of a probabilistic nature. Knowing the position of the system at a given instant one may, in a precise mathematical sense, make predictions concerning the probable future behavior of the system. The distinguishing feature of a Markoff chain is the following: knowing the position of the system at a given instant, one may make predictions just as accurately as if he knew also all previous positions of the system. Most physical processes are generally assumed to have this property, and results of Markoff chain theory are applicable to many phenomena of a recurrent or cyclic nature. In particular they have been applied to the science of epidemiology, and applications to business cycles and other economic phenomena have been suggested by Scandinavian mathematicians. Markoff chains are of fundamental importance in probability theory itself, and much research has been done in this field in recent years. Among the outstanding mathematicians who have studied properties of Markoff chains are Doeblin in France, Yosida and Kakutani in Japan, Doob in the United States, and Kryloff and Bogliouboff in Russia.

Most of the work done hitherto in the field has been with a special class of chains called temporally homogeneous, in which the rules according to which the system behaves and the probability of any particular position are both independent of the instant under consideration. My plan is to make a study of



David Blackwell

Statement of plan of work

chains which are not subject to this limitation, to determine their properties, and to generalize results already obtained in the temporally homogeneous case. This study will be divided into three parts according as the number of possible positions of the physical system is finite, countable infinite, or non-countably infinite.

I began the study of Markoff chains this summer at the University of Illinois under the supervision of Professor J. L. Doob. I expect to receive the Ph.D. in mathematics from the University of Illinois in June, 1941, with my thesis consisting of a report of my work up to that date. I propose, under the Rosenwald Fellowship, to continue my research in Markoff chains at the Institute for Advanced Study in Princeton, N. J. during the year 1941-42, and expect to complete the study about June, 1942. Professor Doob, under whom I am now working, will also be at the Institute next year, and I shall continue to work under his general supervision. I expect the results of the study to be published in one of the standard mathematical journals.

The Institute is the foremost center of mathematical research in the world, having on its resident staff such men as von Neumann, Morse, Weyl, Alexander, and Einstein. In addition to the work described above, I naturally expect to attend some of the lectures and participate in seminars held at the institute. After completing my work at the Institute, I expect to teach mathematics in some Negro college and to continue mathematical research.



Name Entered	Blackwell, David Harold		Vault No.	110453
Matriculated	Sept. 19, 1935	Matr. Number	97443	
College	Centralia, Illinois, April 24, 1919		Name of parent or guardian	
L.A.S.	General		Grover Blackwell	
Degree	A.M. (Mathematics)		Address of parent or guardian	
School last attended	A.B. (L.A.S.) High Honors Math.		918 Marion Ave., Centralia, Illinois	
	Date June 12, 1939		Residence classification of student	
	Date June 13, 1938		Resident	
Centralia Township High School				

ADMISSION UNITS

ACCEPTED FROM

English	Latin	History	Physics	Bookkeeping
	German	Civics	Chemistry	Draw. & Man. Train.
Algebra	French	Economics	Zoology	Music
Plane Geometry	Spanish	Com. Geography	Botany	Agr. or Home Econ.
Solid Geometry		Sociology	Biology	Sten. & Type.
			Other Sciences	Misc. Subjects

Descriptive Title of Course	Course Number	Sem.	Gr.	Grade	Descriptive Title of Course	Course Number	Sem.	Gr.	Grade
Algebra	Math. 170			A					
Theoretical Mechanics	Phys. 20b			B					
First Semester 1940-41									
	Math. 101		1						
	Math. 100		3						

French Exam. passed.
 German Exam. passed.
 Prelim. Exam. passed

IN GOOD STANDING

E. C. Seyler

E. C. Seyler, Recorder

* By Examination. E Extension. X Correspondence. * Correction

A, excellent; B, good; C, fair; D, poor (barely passing); E, failure; Ab., (Absent), counts as a failure; Ex., excused absence; Dr., dropped from class, counts as a failure. A unit of graduate work is equivalent to four semester hours of undergraduate work. Total semester hours earned recorded in semester hour column; all other totals for office use only. This record is not official unless it bears the signature of the Recorder and the impress of the seal of the University of Illinois.

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 Entered **Sept. 19, 1935** Matriolated **Sept. 19, 1935** Matr. Number **97443**
 College **L. A. S.** Curriculum **General**
 Degree **A.B. (Mathematics)** Date **June 12, 1939**
A.B. (L.A.S.) High Hon. in Math. Date **June 13, 1938**
 School last attended **Centralia Twp. H. S.**

Place and date of birth **Centralia, Ill., April 24, 1919**
 Name of parent or guardian **Grover Blackwell**
 Address of parent or guardian **918 Marion Ave., Centralia, Ill.**
 Residence classification of student **Resident**

ADMISSION UNITS

ACCEPTED FROM

English	4	Latin	1	History	2	Physics	1	Bookkeeping		Centralia, Ill., Twp. H. S.
		German		Civics		Chemistry		Bookkeeping Man. Train.	1	
Algebra	1 1/2	French		Economics		Zoology		Music		Upper 25%
Plane Geometry	1	Spanish	2	Com. Geography		Botany		Agr. or Home Econ.		
Solid Geometry	1 1/2			Sociology		Biology		Sten. & Type.		
Trig.	1 1/2					Other Sciences	1	Misc. Subjects	1	Rank 5-175

Descriptive Title of Course	Course Number	Sem.	Gr.	Descriptive Title of Course	Course Number	Sem.	Gr.
First Semester 1935-36				Intermed. German			
Rhetoric and Composition	Rhet. 1	3	Pass	First Semester 1937-38	Germ. 55	2	A
Essen. of Hygiene & San.	Hyg. 5	2	Pass	Intro. to Higher Analysis	Math. 71a	3	A
Rhetoric and Composition	Rhet. 2	3	Pass	Actuarial Theory	Math. 30	3	A
College Algebra	Math. 2	3	A	Diff. Equat. & Adv. Calc.	Math. 16	3	A
Adv. Trigonometry	Math. 6	2	A	Economics of Insurance	Econ. 55	3	B
Elementary German	Germ. 1	4	B	Introduction to Philosophy	Phil. 1	3	B
Econ. Hist. of U.S.	Econ. 22	3	B	General Chemistry	Chem. 7	5	B
Principles of Accounting	Accy. 1a	3	A	Second Semester 1937-38			
Individual Athletics	P. Ed. 37	1	A	Diff. Equat. & Adv. Calculus	Math. 17	3	A
Field Artillery Drill	Mil. 11a	1	D	Actuarial Theory	Math. 31	3	A
Field Artillery Theory	Mil. 11b	1	D	Intro. to Higher Algebra	Math. 70b	3	A
Second Semester 1935-36				Intro. to Higher Analysis			
Analytic Geometry	Math. 6	5	A	General Physics	Math. 71b	3	A
Mathematics of Finance	Math. 23	3	A	General Physics Lab.	Phys. 1b	4	A
General Physics	Phys. 1a	3	A	Field Artillery Drill	Phys. 3b	1	B
General Physics Laboratory	Phys. 3a	2	A	Mil. 14c	1 1/2	D	
Elementary German	Germ. 2	4	B	First Semester 1938-39			
Beginning Swimming	P. Ed. 24	(1/2)	Ab.	TRANS. TO GRADUATE (Math.)			
Field Artillery Drill	Mil. 12a	1	D	Theory of Statistics	Math. 129	1	A
Field Artillery Theory	Mil. 12b	1	C	Linear Operations	Math. 151	1	A
First Semester 1936-37				Elem. of Higher Geom. & Alg.			
Calculus	Math. 7	5	A	Analysis	Math. 169	1	A
Principles of Economics	Econ. 1	5	A		Math. 171	1	A
Intermediate Course	Germ. 4	4	B	Second Semester 1938-39			
Introduction to Psychology	Psych. 1	4	A	Theory of Statistics	Math. 129	1	A
American Literature	Engl. 12	2	B	Linear Operations	Math. 151	1	A
Wrestling	F. Ed. 29	1	C	Elem. of Higher Geom. & Alg.	Math. 169	1	A
Field Artillery Drill	Mil. 13c	1	D	Analysis	Math. 171	1	A
Field Artillery Theory	Mil. 13d	1	B	First Semester 1939-40			
Second Semester 1936-37				Geometry			
Calculus	Math. 9	3	A	Functions of A Complex Variab.	Math. 102		A
Theory of Probability	Math. 21	3	A	Algebra	Math. 170		A
Adv. Asp. of Euclid. Geom.	Math. 36	3	A	Theoretical Mechanics	Phys. 20		A
Logic	Phil. 2	3	A	Second Semester 1939-40			
Elementary French	Fren. 1a	4	A	Func. of a Complex Variable	Math. 102		A
Field Artillery Drill	Mil. 14c	(1/2)	E	Geometry	Math. 172		A
Field Artillery Theory	Mil. 14d	1	D	IN GOOD STANDING			
Summer Session 1937				DEC 7 - 1940			
Elementary French	Fren. 1b	4	A	<i>E. C. Seyler</i>			
Fundamental Concepts	Math. S40	2 1/2	A	E. C. Seyler, Recorder			

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UNIVERSITY OF ILLINOIS

February 2, 1941

Dear Mr. Reynolds,

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Sincerely,

J. L. Doob

FISK
UNIVERSITY

COPY

November 14, 1940

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I hope that no feeling on Blackwell's part that he might cause us embarrassment will intervene, because the opposite is the case. I really think that he would be as happy here as he would be anywhere else.

Yours sincerely,

Oswald Veblen

LETTERS OF REFERENCE

David Blackwell

Mr. J. L. Doob, Assistant Professor of Mathematics, University of Illinois

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At the present time, the Institute for Advanced Study is the mathematical center of the world. The intellectual atmosphere there is just what Blackwell needs to make him a mature scholar. He will be no passive student, but will be able to make his own contribution to the mathematical life there. The topics which interest him have been the subject of intensive research in universities all over the world, but much work remains to be done, and Blackwell will certainly be able to do an important part of it.

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lack of library facilities, etc. An opportunity to live in a research atmosphere for a year is therefore more necessary for Blackwell than for a white man of the same ability. (I stress however that I have been making no allowances for color. Blackwell will compare favorably with anyone at the Institute at his stage of advancement.) Other considerations also enter. At a time like this, all opportunities should be taken to refute current spurious race theories which are by no means confined to Central Europe. Blackwell is an excellent example of the fact that a Negro can have really creative ability in mathematics, and that even Princeton, a university with a profound southern tradition, is willing to encourage the development of this ability. (Most Institute lectures and seminars are on the Princeton campus. I have been assured that Blackwell will have no difficulty there, the assurance coming from an Institute official.)

I therefore most strongly urge that the Fund grant Mr. Blackwell stipend to enable him to spend a year at the Institute for Advanced Study.

Mr. Blackwell is a likable young man with no personality difficulties of any sort. He is esteemed and liked by the faculty and by his fellow students, who elected him president of the local mathematics club.

- - - -

Mr. A. B. Coble, Professor of Mathematics and Head of Department, University of Illinois

In my opinion Mr. Blackwell is a young man of the highest promise. I have had no scientific contacts with him since his field of analysis is not closely related to my own in geometry. Thus I must depend entirely on the reactions of others to his work. However, there has been no



student in the department in recent years who has been so uniformly rated at the top of our list of graduate students as Mr. Blackwell. I am told that the faculty rating is confirmed by his fellow students who find that they can turn to him with entire confidence for help when difficulties arise in their work.

Mr. Blackwell is quiet and assuming, with a very nice personality and appearance, and every prospect for a successful career as a teacher.

With respect to the program of work which he has in mind, I would myself be perfectly willing to accept the judgment of Professor Doob who is one of the few Americans competent to pass judgment upon it.

- - - -

Name David Harold Blackwell Field: Mathematics
 Fellow in Mathematics
 University of Illinois
 1501 West Clark Street, Urbana

Plan of Work To investigate the properties of non-temporally homogeneous Markoff chains.

Wishes to attend Institute for Advanced Study in Princeton, New Jersey, working under Dr. J. L. Doob. Seeks no degree. Probable duration of study one year, beginning June, 1941. Wishes to teach mathematics in a Negro college. (Dr. Doob is Mr. Blackwell's professor at the University of Illinois.)

Personal Data Born Centralia, Illinois, April, 1919. Single. Age: 22

Undergraduate Work University of Illinois, A. B., 1938.

Graduate Work University of Illinois, A. M., 1939.

University of Illinois, Ph.D. probably June, 1941.

Experience

Accomplishments Phi Beta Kappa, Sigma Xi.

Fellowships: University of Illinois, 1939-40, \$500; 1940-41, \$600.

References

Dr. J. L. Doob, University of Illinois
 Dr. A. B. Coble, University of Illinois

Budget Summary

Total Amount Needed	\$1,650
From Applicant	---
From Fund	\$1,650

AMOUNT GRANTED

David Blackwell

PLEASE RETURN
TO
JULIUS ROSENWALD FUND

Statement of plan of work

I propose to make a detailed study of Markoff chains and related topics in probability theory. A Markoff chain is a mathematical abstraction of certain aspects of a physical system which changes with time according to certain specified rules of a probabilistic nature. Knowing the position of the system at a given instant one may, in a precise mathematical sense, make predictions concerning the probable future behavior of the system. The distinguishing feature of a Markoff chain is the following: knowing the position of the system at a given instant, one may make predictions just as accurately as if he knew also all previous positions of the system. Most physical processes are generally assumed to have this property, and results of Markoff chain theory are applicable to many phenomena of a recurrent or cyclic nature. In particular they have been applied to the science of epidemiology, and applications to business cycles and other economic phenomena have been suggested by Scandinavian mathematicians. Markoff chains are of fundamental importance in probability theory itself, and much research has been done in this field in recent years. Among the outstanding mathematicians who have studied properties of Markoff chains are Doeblin in France, Yosida and Kakutani in Japan, Doob in the United States, and Kryloff and Bogliouboff in Russia.

Most of the work done hitherto in the field has been with a special class of chains called temporally homogeneous, in which the rules according to which the system behaves and the probability of any particular position are both independent of the instant under consideration. My plan is to make a study of

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David Blackwell

Statement of plan of work

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The Institute is the foremost center of mathematical research in the world, having on its resident staff such men as von Neumann, Morse, Weyl, Alexander, and Einstein. In addition to the work described above, I naturally expect to attend some of the lectures and participate in seminars held at the institute. After completing my work at the Institute, I expect to teach mathematics in some Negro college and to continue mathematical research.



Copy of transcript

<u>Course</u>	<u>Sem. hr.</u>	<u>Grade</u>
<u>First semester 1935-36</u>		
Rhetoric & Composition	3	#Pass
Essentials of Hygiene	2	#Pass
Rhetoric & Composition	3	#Pass
College Algebra	3	A
Adv. Trigonometry	2	A
Elementary German	4	B
Econ. Hist. of U.S.	3	B
Principles of Accounting	3	A
Individual Athletics	$\frac{1}{2}$	A
Field Artillery Drill	$\frac{1}{2}$	D
Field Artillery Theory	$\frac{1}{2}$	D

Second semester 1935-36

Analytic Geometry	5	A
Mathematics of Finance	3	A
General Physics	3	A
General Physics Laboratory	2	A
Elementary German	4	B
Beginning Swimming	($\frac{1}{2}$)	Abs.
Field Artillery Drill	$\frac{1}{2}$	D
Field Artillery Theory	$\frac{1}{2}$	C

First semester 1936-37

Calculus	5	A
Principles of Economics	5	A
Intermediate German	4	B
Introduction to Psychology	4	A
American Literature	2	B
Wrestling	$\frac{1}{2}$	C
Field Artillery Drill	$\frac{1}{2}$	D
Field Artillery Theory	$\frac{1}{2}$	B

Second semester 1936-37

Calculus	3	A
Theory of Probability	3	A
Euclidean Geometry	3	A
Logic	3	A
Elementary French	4	A
Field Artillery Drill	($\frac{1}{2}$)	E
Field Artillery Theory	$\frac{1}{2}$	D

Summer session 1937

Elementary French	4	A
Fundamental Concepts of Math.	2 $\frac{1}{2}$	A
Intermediate German	2	A

#By examination

<u>Course</u>	<u>Sem. hr.</u>	<u>Grade</u>
<u>First semester 1937-38</u>		
Intro. to Higher Analysis	3	A
Actuarial Theory	3	A
Diff. Equations	3	A
Economics of Insurance	3	B
Introduction to Philosophy	3	B
General Chemistry	5	B

Second semester 1937-38

Diff. Equations	3	A
Actuarial Theory	3	A
Intro. to Higher Algebra	3	A
Intro. to Higher Analysis	3	A
General Physics	4	A
General Physics Lab.	1	B
Field Artillery Drill	$\frac{1}{2}$	D

First semester 1938-39

<u>(Graduate school) units</u>		
Theory of Statistics	1	A
Linear Operations	1	A
Elem. of Higher Geom. & Alg.	1	A
Analysis	1	A

Second semester 1938-39

Theory of Statistics	1	A
Linear Operations	1	A
Elem. of Higher Geom. & Alg.	1	A
Analysis	1	A

First semester 1939-40

Geometry	1	A
Functions of a Complex Variable	1	A
Algebra	1	A
Theoretical Mechanics	1	A

Second semester 1939-40

Func. of a Complex Variable	1	A
Geometry	1	A
Algebra	1	A
Theoretical Mechanics	1	B

February 2, 1941

Dear Mr. Reynolds,

The situation at the Institute for Advanced Study has been complicated by the fact that practically all the lectures and seminars are held in Fine Hall, on the Princeton campus. I am sure that all the Institute officials are entirely free of racial prejudice. There is a story current, however, that one young Negro mathematician was unable to go to the Institute a few years ago, because of Princeton objections.

As soon as I decided that Blackwell was of Institute caliber, I wrote to Professor Veblen, the head of the mathematics section of the Institute to make sure that Blackwell would be welcome. The answer was not too optimistic about the possibility of Blackwell's using Fine Hall, although Professor Veblen stressed that the Institute would be glad to have him. I therefore wrote that under those conditions Blackwell would go to "some place like Harvard, with a more northern tradition". Needless to say, I was not going to let the matter rest there, especially since at about that time the President of Princeton made a speech in which he described the training in democracy that Princeton students are to receive.

Apparently the Institute officials became more aggressive in support of a concept of democracy even broader than Princeton's, and I soon received a letter from Professor Veblen (a copy is enclosed) which I consider perfectly satisfactory. Since this letter was a personal letter to me, please use it for your own information or guidance only. I think if Blackwell went to Princeton, a new and more democratic tradition might be established.

Sincerely,

J. L. Doeb



COPY

November 14, 1940

Dear Professor Doob:

After receiving your letter of November 1, I reread what I wrote you about Blackwell and I see that it is a fair inference from my letter that we could not guarantee that Blackwell would be admitted to those of our lectures which are held in Fine Hall in case the University made any objection. I have no reason to anticipate that the University will make any objections, and in any case am certain that every lecture course given by a professor of the Institute will be open to him. We are very anxious to make the principle clear that there is no racial discrimination in the Institute and to demonstrate this by concrete examples. Therefore I hope very much that Blackwell will come to the Institute.

I hope that no feeling on Blackwell's part that he might cause us embarrassment will intervene, because the opposite is the case. I really think that he would be as happy here as he would be anywhere else.

Yours sincerely,

Oswald Veblen

LETTERS OF REFERENCE

David Blackwell

Mr. J. L. Doob, Assistant Professor of Mathematics, University of Illinois

Mr. Blackwell has been one of our most promising students at the University of Illinois throughout his undergraduate and graduate career. A graduate who received his Ph. D. a few years ago, and who is now doing research at the Institute for Advanced Study, considers him to be the best mathematician the University has ever produced. He is that rare combination: a very talented student with no mental quirks. He has gone through his undergraduate and graduate years, taking all courses and assignments in his stride, generally doing more than required. He has always been anxious to do independent reading, even when the material was in French or German, another most unusual trait. Blackwell is genuinely interested in research, and shows great aptitude for it. In his research under me, he almost always instinctively divines the right mode of attack on any new problem.

At the present time, the Institute for Advanced Study is the mathematical center of the world. The intellectual atmosphere there is just what Blackwell needs to make him a mature scholar. He will be no passive student, but will be able to make his own contribution to the mathematical life there. The topics which interest him have been the subject of intensive research in universities all over the world, but much work remains to be done, and Blackwell will certainly be able to do an important part of it.

I have not yet mentioned the peculiar problems arising from Blackwell's color. When he finally starts his teaching career, he will be forced to accept a position at a Negro college, where he will be able to pursue mathematical research only with the utmost difficulty, because of

lack of library facilities, etc. An opportunity to live in a research atmosphere for a year is therefore more necessary for Blackwell than for a white man of the same ability. (I stress however that I have been making no allowances for color. Blackwell will compare favorably with anyone at the Institute at his stage of advancement.) Other considerations also enter. At a time like this, all opportunities should be taken to refute current spurious race theories which are by no means confined to Central Europe. Blackwell is an excellent example of the fact that a Negro can have really creative ability in mathematics, and that even Princeton, a university with a profound southern tradition, is willing to encourage the development of this ability. (Most Institute lectures and seminars are on the Princeton campus. I have been assured that Blackwell will have no difficulty there, the assurance coming from an Institute official.)

I therefore most strongly urge that the Fund grant Mr. Blackwell stipend to enable him to spend a year at the Institute for Advanced Study.

Mr. Blackwell is a likable young man with no personality difficulties of any sort. He is esteemed and liked by the faculty and by his fellow students, who elected him president of the local mathematics club.

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Mr. A. B. Coble, Professor of Mathematics and Head of Department, University of Illinois

In my opinion Mr. Blackwell is a young man of the highest promise. I have had no scientific contacts with him since his field of analysis is not closely related to my own in geometry. Thus I must depend entirely on the reactions of others to his work. However, there has been no

student in the department in recent years who has been so uniformly rated at the top of our list of graduate students as Mr. Blackwell. I am told that the faculty rating is confirmed by his fellow students who find that they can turn to him with entire confidence for help when difficulties arise in their work.

Mr. Blackwell is quiet and assuming, with a very nice personality and appearance, and every prospect for a successful career as a teacher.

With respect to the program of work which he has in mind, I would myself be perfectly willing to accept the judgment of Professor Doob who is one of the few Americans competent to pass judgment upon it.

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FELLOWSHIPS

April 11, 1941

Dear Mr. Blackwell: It is a pleasure to inform you that you have been selected by the Committee on Fellowships of the Julius Rosenwald Fund to receive a grant of one thousand six hundred fifty dollars (\$1,650) to assist you in carrying forward your studies in mathematics at the Institute for Advanced Study, Princeton, New Jersey, for twelve months, beginning in June of 1941.

Will you please let us know at once whether or not you can accept this grant? An official announcement of the Committee's selections will be made soon and it can include only those from whom acceptances have been received.

Very truly yours,

GEORGE M. REYNOLDS

GMR:MLU

Mr. David Harold Blackwell
1301 West Clark Street
Urbana, Illinois

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UNIVERSITY