

BROCK
UNIVERSITY
REGION NIAGARA

Department of
Biological Sciences

416/684-7201

Glenridge Campus
St. Catharines,
Ontario L2S 3A1
Canada

Dr. Elizabeth Ralph
University Museum
University of Pennsylvania
Philadelphia, Penn.

Nov 28/77

Dear Dr. Ralph,

I am engaged in a paleobotanical investigation of a small glacial lobe in Ontario's Algonquin Park. Seven core levels were dated radiometrically (^{14}C) to determine past sedimentation rates. I have corrected several of the dates using tables you have published for this purpose. Two of the dates go back further than the tables do at present. Realizing that your people are extending the record back all the time is it now possible to estimate corrected dates for either of these (7760 and 10,400 B.P.). I would appreciate your sending me the corrected dates if you are able to give them.

Thanks very much for your help
Sincerely
Chris E. Hall



Museum Applied Science Center for Archaeology

Froelich Rainey, Director

Elizabeth K. Ralph, Associate Director

THE UNIVERSITY MUSEUM • UNIVERSITY OF PENNSYLVANIA
33rd & SPRUCE STREETS • PHILADELPHIA, PENNSYLVANIA 19104
386-7400 (Area Code 215) Cable Address "Antique"

Mr. Christopher Earle,
Brock University, Region Niagara,
Department of Biological Sciences,
Glenridge Campus,
St. Catherines,
Ontario L2S 3A1
Canada.

8 December 1977.

Dear Mr. Earle,

The correction of ^{14}C dates must be limited to the range of our samples of known age. However, we now have a group of five dates clustered around 8,000 B.P.. The deviation of these dates is about 450 years (too young). Therefore, you could estimate this, or about 500 years, as a possible correction for your 7760 B.P. date.

For the 10,400 B.P. date one may not make a correction at this time. For example, when we try to predict into the past beyond our limit of known age materials by means of our computer-derived polynomial fits, they go exponential where we have no data.

Hopefully, the range of known ages will be extended, but this will take a minimum of five years.

Sincerely yours,

Elizabeth K. Ralph.

THE METROPOLITAN MUSEUM OF ART

NEW YORK, N.Y. 10028

July 14th, 1965

Dr. Elizabeth K. Ralph
Applied Science Center for Archaeology
The University Museum
University of Pennsylvania
33rd & Spruce Streets
Philadelphia 4, Pa.

Dear Dr. Ralph,

Thank you for your letter of July 6th 1965 which I found to-day after a brief absence from the office.

Under separate cover I will send you the reprint you asked for. I do not expect to be in Philadelphia again until the early part of August, and will try to get in touch with you then. Usually I stop by the Museum there on Saturday morning, but I do not know whether that day is one on which the Center functions.

I am going up to Cambridge next week and hope to see Cyril Smith while I am there. If I do I will discuss your letter with him, for I am sure he will have some useful and helpful suggestions to make.

Sincerely yours,

A handwritten signature in blue ink that reads "Dudley T. Easby, Jr." with a stylized flourish at the end.

Dudley T. Easby, Jr.

July 16, 1965

Dr. Dudley T. Easby, Jr.
The Metropolitan Museum of Art
New York, N. Y. 10028

Dear Dr. Easby:

Thank you very much for your reply of July 14th and for your reprint.

I shall be here on August 7th and hope that it happens to be a convenient Saturday for you. If I do not have to leave for Arizona, I shall also be here on the 14th.

By the first week of August we shall have assembled a few definite metallurgical-archaeological project suggestions, and we shall be very grateful to have your opinion of them, also your suggestions for others.

Sincerely yours,

Elizabeth K. Ralph

EKR/mr

July 22, 1965
July

Dr. Dudley T. Easby, Jr.
The Metropolitan Museum of Art
New York, N.Y. 10028

Dear Dr. Easby:

After writing to you that I would be here on August 7th, I now have to leave to do an instrument survey in South Carolina, then on to Arizona around the 13th.

I hope that I shall have the opportunity of meeting you in the future. If you come to the Museum in August and have time to discuss our project, Mr. O'Connor in the Egyptian section knows as much about it as anyone.

Sincerely yours,

Elizabeth K. Ralph

EKR/mr

EASTMAN - KODAK

March 13, 1968

Kodak Processing Laboratory
16-31 Route 208
Fairlawn, New Jersey 07410

Re: lost Kodachrome film

Dear Sirs:

In May or June 1967, I mailed a film either from Greece or from Italy for prepaid developing. It contained pictures taken on the island of Santorini, Greece. Many of them were of instruments packed in aluminum suitcases and tied on the backs of mules.

I did not receive the developed color slides. They were probably addressed to me or to Robert Stuckenrath at the University of Pennsylvania (either University Museum or Department of Physics), or possibly to me at my home address - Box 357 Woosamonsa Road, Pennington, New Jersey.

I have just recently found the enclosed stub, but am not sure whether or not this is the one that belonged to the missing film. If it is, or if by some other means you can find the lost slides, I shall very much appreciate it.

Sincerely yours

Elizabeth K. Ralph

No. M 136483

EASTMAN KODAK COMPANY

COLOR PRINT AND PROCESSING SERVICES

16-31 ROUTE 208

FAIR LAWN, NEW JERSEY 07410

HOME OFFICE
ROCHESTER, NEW YORK 14650

TELEPHONE
AREA CODE 201 797-0600

March 14, 1968

Miss E. K. Ralph
Box 357 Woosamonsa Road
Pennington, New Jersey

Dear Miss Ralph:

We wish we had better news, but we have no record of processing and shipping the film about which you inquired. We checked, too, among films that are occasionally delivered to us without identification. None match your description.

From this information, it would appear that the film was lost or met with some mishap in transit. We suggest, therefore, that you start a postal tracer (Post Office Form 1510) from the place where the film was mailed.

We surely hope you will be able to locate your film in this way, and that we will soon have the pleasure of processing it for you.

Cordially yours,

(Type) K. Whelan

KWhelan:aab

Color Print and Processing Services

VS

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 19104

Department of Geology

September 10, 1969

Professor William H. Easton
Department of Geological Sciences
University of Southern California
Los Angeles, California 90007

Dear Dr. Easton:

Enclosed I am sending you the latest information on the Carbon 14-tree ring discrepancy. It turns out that the differences are smaller than you thought, but larger than I remembered.

The divergence appears to be monotonic from the graphs, but linear extrapolation is not warranted because there are many reasons for believing that the Carbon 14 inventory of the earth is an oscillating function. The period is not known at this time.

Sincerely,

Henry Faul
(Chairman)

HF:mf
enclosures

cc: Miss E. K. Ralph

S. B. ECKERT
1600 WALNUT STREET
PHILADELPHIA 3

file
Arch Tech

October 3, 1960

Dear Fro:

I am returning for your files Mr. Linnington's letter of September 26th.

Of course, I am delighted to hear that Texas Instruments are getting actively into it, because I think they can give us more advice and assistance than any other company.

I am also sure that if they are able to work out a device that accomplishes what we have in mind, there will be no difficulty getting money, either from Texas Instruments or perhaps from Howard Pew.

By the way, I see that on November 20th, the underwater films of the work of our expedition, off the Turkish Coast, are going to be shown at the Academy of Natural Sciences for the benefit of Strawberry Mansion. Are we going to see these pictures at our "Report of Expeditions" before that time?

Sincerely,



Dr. Froelich G. Rainey, Director,
The University Museum
University of Pennsylvania,
Thirty-Third and Spruce Streets,
Philadelphia 4, Pennsylvania.

THE UNIVERSITY MUSEUM



UNIVERSITY OF PENNSYLVANIA

THIRTY-THIRD AND SPRUCE STREETS

PHILADELPHIA 4

CABLE ADDRESS "ANTIQUE"

TELEPHONE: EVERGREEN 6-1241

*Arch. Dept.
Send to Mr.
Sov. B. Robert
Sov. B. Robert
Sov. B. Robert
Sov. B. Robert
Sov. B. Robert*

26th Sept. 1960.

Dear Dr. Rainey,

So far we have had one large meeting with Texas Instruments. This occurred on Friday, and was attended by F. Agnich, R. Dunlop (President of Geophysical Services Inc., a subsidiary of Texas Instruments), F. Romberg (Head of the Gravity Department of Geophysical Services Inc.), F.L. Johnson, F.M. Mayes (Assistant director of production research at Sun Oil Co.) and myself. Dr. McDermott was unfortunately prevented from coming at the last moment.

The discussion was very general and lasted for most of the morning. Everyone seemed interested in the project, and, although guarded in ^{their} ~~his~~ remarks, I feel that it is quite possible that Texas Instruments will help support the project. I am to see Dr. Romberg tomorrow about the possible technical problems involved. After this there is likely to be a delay for up to a month before a decision can be reached. If this appears to be the case I will return to Philadelphia, as I feel that my continued presence here would not be of any further benefit at the moment.

Mr. Johnson seems to be very pleased with the progress so far, although of course somewhat careful over making too definite conclusions at this stage.

I have also arranged to see Dr. Lundell, especially over the selection of a test site in the Dallas area to try out any devices.

I am still at the Sheraton Hotel as this seems to be expected of me by all concerned. As I expect to return so soon there seems little point in forwarding any mail. I look forward to reporting to you in person.

Yours sincerely,

R. E. Livingston

Archaeological
Technique

November 14, 1962

Mr. S. B. Eckert
1600 Walnut Street
Philadelphia 3, Pa.

Dear Sam:

I am back from Texas and a visit to Texas Instruments as well as the Petty Company where I saw their field research in progress. It seems to me to be going well but most important the engineers themselves are getting excited about this technique. They hope to have something for us mounted on a truck by April for work in Italy and I think they will send their own engineer with it.

It seems a long time since we have seen you and Mildred and I hope we can get together before I leave for London on the twenty-fourth.

The very best to you both.

Froelich G. Rainey
Director

FGR/fk.

S. B. ECKERT
1600 WALNUT STREET
PHILADELPHIA 3

November 12, 1962

Dr. Froelich Rainey, Director
The University Museum
University of Pennsylvania
Thirty-Third and Spruce Streets
Philadelphia 4, Pennsylvania.

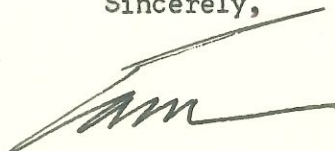
Dear Fro:

Many thanks for the Petty Company's report
on the Sonic Archaeological Probe.

It would appear that we have quite a way to go
before we can produce equipment that will be effective
up to thirty feet.

I am putting this report in my files but if it
is the only one you have and you would like it for your
records, would you please contact my secretary, Mrs.
Reichert, since I will be away for the next week.

Sincerely,



SBE:r

S. B. ECKERT
1600 WALNUT STREET
PHILADELPHIA 3

Ash Tachin
Me

November 19, 1962.

Dr. Froelich G. Rainey, Director
The University Museum
University of Pennsylvania
Thirty-Third and Spruce Streets,
Philadelphia 4, Penna.

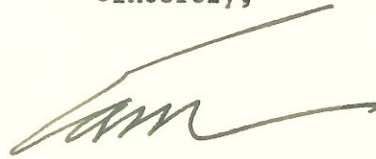
My dear Fro:

Many thanks for your letter of the 14th reporting
on your visit to the Petty Company.

I am delighted to hear they are taking such an
interest and it would, of course, be most helpful if they
could send technicians with the equipment when it goes to Italy.
It may be that we have something after all!

Unfortunately, I am going to South Carolina for two
weeks of shooting and you are leaving for London on the 24th,
so I fear we will have to wait until our return before we can
get together for dinner.

Sincerely,



May 6, 1974

Ecotec Corporation
14 Charles Street
Needham, Massachusetts 02194

Dear Sirs:

Please send me information about the Ecotec Mark 1
Enhancement Seismograph as advertized in EOS, v.55 (May 1974).

Please include cost of purchase and rental.

Sincerely yours,

Elizabeth K. Ralph

EKR:emd

EDGERTON, GERMESHAUSEN & GRIER, INC.



160 BROOKLINE AVENUE
BOSTON 15, MASSACHUSETTS

COPLEY 7-9700

21 September 1962

L70762

Miss Elizabeth K. Ralph
Applied Science Center for Archaeology
The University Museum
University of Pennsylvania
33rd & Spruce Streets
Philadelphia 4, Pennsylvania

Dear Miss Ralph:

Thank you for your kind letter of August 29th. The advertisement in "Science and Technology" showed a photograph of the record taken by a prototype model Sonar Sediment Probe developed by Dr. Edgerton. Dr. Edgerton reports that a refined version which is currently being tested will provide a more accurate and well defined record.

It should be noted that the Sonar Sediment Probe is designed to locate objects buried under mud and silt, and would not be particularly useful in penetrating sandy or rocky terrane.

We expect that Dr. Edgerton will return from Europe within the next week with a report on the effectiveness of a Mud Penetrator being used in the Mediterranean which may be of interest to you. As soon as this report is available, we will forward it to you for your perusal.

Sincerely yours,

EDGERTON, GERMESHAUSEN & GRIER, INC.



John P. McCarthy
Product Sales Manager, Equipment

JPM:smg

cc: Dr. Edgerton
W. Kearsley
p/f

October 1, 1962

✓ Mr. John P. McCarthy
Edgerton, Germeshausen and Grier, Inc.
160 Brookline Ave
Boston 15, Massachusetts

Ref L70762

Dear Mr. McCarthy:

Thank you very much for your letter of September 21st. It was very encouraging because our first application of the Sonar Sediment Probe (if available) would be to try to locate the 6th century B.C. city of Sybaris (in Southern Italy). It is buried under approximately 6 meters of earth and clay and the water table is very high--1 to 2 meters down. The deposit is quite homogeneous (without rocks) down to 6 meters where sand is found.

I have enclosed a copy of Expedition in which the problem of finding Sybaris is described in greater detail by C. M. Lerici.

I anticipate eagerly Dr. Edgerton's report, or I should be glad to come to Boston to talk to him if this would be more convenient.

Sincerely yours,

Elizabeth K. Ralph

EKR:dml

February 25, 1966

Dr. Harold E. Edgerton
Edgerton, Germeshansen, & Grier, Inc.
160 Brookline Avenue
Boston 15, Mass.

Dear Dr. Edgerton:

A copy of my reply to Dr. Marinatos is enclosed. If the magnetometer survey in May does come about, I hope that you will be able to be there too.

With best regards,

Elizabeth K. Ralph
Associate Director

Enclosure: copy

DEPARTMENT OF ELECTRICAL ENGINEERING

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

CAMBRIDGE, MASSACHUSETTS 02139

May 27, 1970

Dr. Elizabeth K. Ralph
The University Museum
33rd & Spruce Streets
Philadelphia, Pa. 19104

Dear Dr. Ralph:

Many thanks for your report which I refer to in my recent report.

A copy of this report (Helice Site Survey With Sonar) is enclosed.

Best regards,


Harold E. Edgerton

HEE:m

Encl.

December 12, 1972

Dear Sir:

Will you please send us a catalogue of your metal detectors,
including prices.

Thank you in advance.

Sincerely yours,

Elizabeth K. Ralph

Edmund Scientific Company
801 Edscorp Building
Barrington, New Jersey 08007

EKR/c

ascn

March 30, 1972
Lambuth College
Jackson, Tennessee 38301

Dr. R. Rainey
The University of Pennsylvania
Philadelphia, Pennsylvania

Dear Dr. Rainey:

I am interested in designing an apparatus for pottery dating. Please send me a reprint of your article with E. K. Ralph, Science, 153, 1481, 1966.

If there is a later design of this apparatus or a commercial apparatus, I should be interested in learning of this.

Thank you.

Yours very truly,

George W Edwards

George W. Edwards, Ph. D.

*Replied 4-11-72
Reprint from Science by Rainey & Ralph
& Scientific Methods in Medieval Arch.
were included by them & Ralph.*

Seehufes

EGYPTIAN
MUSEUM

May 18, 1965

Dear Mr. Mahdi:

Dr. Henry Michael ~~of~~ *our* staff, and Dr. Bryant Bannister of the Tree-Ring Laboratory in Tucson, Arizona, have been discussing with Dr. Zaki Iskander a project having to do with the establishment of tree-ring chronology in the Near East and we have achieved some success in Turkey *and* Lebanon which encourages us to extend the work to Egypt.

Dr. Michael and Dr. Bannister now wish to obtain borings of wooden beams at Dashur, Meidum and possibly Sakkara. It should be emphasized that the amount of wood required is very small; simply a plug about 1 cm in diameter from each beam. The work will be carried out in collaboration with *Dr. Iskander*. Both men hope to leave ~~for~~ Egypt about June 6th, 1965, and would carry out the borings in about two or three weeks in Egypt. I hope this is satisfactory with you and that you can give them the necessary authority to take *these wood* samples at the sites mentioned.

I am, of course, very anxious to hear about the status of the request to carry on excavations at Dahsur and *hope* to hear from you in the near future. Dr. W. Kelly Simpson who will direct the work for Pennsylvania-Yale, can come to Cairo any time this summer to discuss the matter with you and to arrange any of the necessary details. I am sorry that I missed *ed* you this past February, but I happened to arrive there when you were very much involved with official visitors. In any case I look forward to seeing you again before long and send you my very best wishes,

Most sincerely,

Froelich Rainey
Director

D Mr. Mohammed Mahdi
Director General, Dept. of Antiquities
The Museum
Cairo, U. A. E.

11/18/71

✓ Mr. Max Arbogast, President
Electronic Detection Equipment Co.
Haddonfield, N.J.

Dear Mr. Arbogast:

In today's Philadelphia Inquirer,
I read about your ^{firm which is concerned with,} electronic detection
equipment. For archaeological
prospecting, we have been
using magnetometers, resistivity
instruments, metal detectors, etc.
I have enclosed a reprint in
which some of this work is described.

I shall appreciate if you
will send me literature or a
catalog in which your instruments
are described. We are interested,
especially, in ~~the~~ better metal detectors.

Sincerely yours,

Elizabeth K. Ralph

Ahmed Shawky El-Gammal
Institute of Physics
Uppsala University

Dear Sir,

I have a great honour to give me a possible chance for working research in your laboratory. I give you a brief summary of my academic qualifications and experience.

I took my B. Sc. in June 1961 in Applied Physics at Assiut University in Egypt. Therefore, I passed studies and did research & investigation in the 'Coagulation Phenomena in gases' having taken my M. Sc. in March 1966. I have been worked as an assistant researcher and demonstrator for the past six years at Physics department, Assiut University. At present, I have one year fellowship within Sida at the Institute of Physics, Uppsala University, engaged on further research on Carbon-14 dating and low level counting, as well as doing a computer course for Fortran programming. The Sida course is due to terminate in June 1968.

My intention is to complete advanced study in the C-14 dating ultimately to take a Ph. D. in this field. Naturally, such studies would only be possible for me if I receive a fellowship or act in the capacity as an assistant researcher. I would be grateful if a chance within your laboratory. Further particular details can be readily supplied. In any case, I thank you for your help in this matter.

Yours faithfully

A.S. El-Gammal

December 1, 1967

Mr. Ahmed Shawky El-Gammal
Institute of Physics
Uppsala University
Uppsala, Sweden

Dear Mr. El-Gammal:

For your purpose, I do not recommend the University of Pennsylvania. Our C-14 laboratory is located in the Department of Physics, but we are not strictly a part of the Department. Our association is more closely related to the University Museum and the Departments of Archaeology and Anthropology. Also, in the Department of Physics here the emphasis is upon theoretical subjects rather than practical subjects such as C-14 dating and low level counting.

I think that a C-14 laboratory such as that at Columbia University would be a more appropriate one for the continuance of your studies.

Sincerely yours,

Elizabeth K. Ralph

vrv

January 31, 1964

Prof. Walter Elsasser
Department of Physics
Princeton University
Princeton, New Jersey

Dear Prof. Elsasser:

It was a great pleasure to have the opportunity to talk to you yesterday.

I have enclosed several copies of articles concerning the TI helium magnetometer and one which describes the addition of Helmholtz coils to a proton magnetometer for measuring vector components.

I have been unable to find the price of the TI magnetometer, quoted to us about a year ago, but I think now that it was \$25,000. Dr. Rainey, Director of the University Museum, knows some of the board chairmen there and may be able to help in this respect. It is expected that Dr. Rainey will return from Egypt next week.

Sincerely yours,

Elizabeth K. Ralph

EKR:ek

Encls.

PRINCETON UNIVERSITY
PRINCETON, NEW JERSEY

DEPARTMENT OF GEOLOGY
CABLE ADDRESS: GUYOT, PRINCETON, N.J.

February 10, 1964

Dr. Elizabeth K. Ralph
Department of Physics
University of Pennsylvania
Philadelphia 4, Pennsylvania

Dear Dr. Ralph:

Thank you ever so much for all the trouble you went to in order to have the several papers on the helium magnetometer copied for us.

I have gone through this material now and am afraid that I am not overly optimistic about use of the device for rock-magnetic measurements in the immediate future although, as time goes on, it might well play an important role. The sensitivity is high; it is given as about 0.01 gamma. On the other hand, the "range of operation" is indicated as 10,000 - 75,000 gamma, meaning that one must have a static field present which can be compensated (e.g., in a bridge). This would not be an insuperable obstacle but I feel that a system of this complexity can only be handled by somebody who understands it thoroughly enough so that he can modify and service it himself, or have this kind of thing done in his own laboratory, rather than depend on factory-guaranteed service; and such a combination of geologists and physicists does not yet exist in any laboratory which deals with rock magnetism. So I am afraid, we shall have to continue for a while yet our search for an instrument that constitutes an improvement over the astatic magnetometer invented by Gauss.

By the way, I have come up in the world in the many years since I was at Penn: I am in the Geology Department, not in the Physics Department. I enjoyed very much our meeting and conversation.

With best wishes,

Sincerely yours,

Walter M. Elsasser

Walter M. Elsasser

cc: Prof. Hargraves

P.S. And if you know of any instrument man who wants to go into academic geophysics where there is a vast need for them, let me know.

February 14, 1964

Prof. W. M. Elsasser
Dept. of Geology
Princeton University
Princeton, New Jersey

Dear Prof. Elsasser:

Thank you for your recent letter. The copies were no trouble to make, thanks to a Xerox machine in the office.

I have enclosed an advertisement of the Bell "Magna-Probe". I imagine that our fields are too low for the application of the Hall effect except for the possibility of a differential arrangement.

We have a good instrument man working on the development of a seismic-sonic-type gadget for our field surveys. He is an independent soul and prefers to work in his own shop, but is a good idea man with competence in electronics. Our apparatus should be finished in March. If you like, we could talk to him about this problem to see what ideas he has.

Sincerely yours,

EKR:lm
Enc.

Elizabeth K. Ralph

LEONARD ENGEL

8 DAWES PLACE
LARCHMONT, N. Y.
—
TENNYSON 4-0311

November 18, 1963

Dear Dr. Ralph:

I am taking the liberty of writing you to inquire about a paper of yours that would be helpful to my wife and myself in connection with two writing projects we are working on dealing with the dating of the Mexican and Mayan cultures. I understand you have published a paper giving Mexican radio-carbon dates. Unfortunately, my informant, one of the people in the Anthropology Department at Columbia, does not recall the journal in which it appeared.

Could you send me either a reprint or the appropriate reference? Thank you very much.

Sincerely,

Leonard Engel

Leonard Engel

LE:blm

Dr. Elizabeth K. Ralph
Department of Anthropology
University of Pennsylvania
Philadelphia, Pa.

Sent 11-19-63 pc

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 19104

The College

DEPARTMENT OF PHYSICS

May 1, 1974

Dr. Frederic Engel
Instituto De Antropologia
Y Agricultura Precolombina
Universidad Nacional Agraria
C.P. 330 Lima - Peru

Dear Dr. Engel:

As far as I know, there is no longer one firm that will equip a complete C^{14} laboratory in a satisfactory way. I have enclosed a copy of an advertisement by Phonon, but I know nothing about their equipment.

New laboratories are mostly doing liquid scintillation counting of benzene because the counting equipment is simpler, cheaper, and available commercially. One good supplier is Hewlett-Packard (International Marketing Department, 1501 Page Mill Road, Palo Alto, California, U.S.A.) Personally, however, I prefer gas counting, or, at least, the ability to do gas counting to check the benzene system.

I think that the best way to get started is to employ some one who has either worked for several years in a C^{14} laboratory or some one with a good background in applied chemistry and physics. It usually takes, at least, a year to get a laboratory running well.

John Hedrick, who worked here for three years, is now getting his Ph.D. in Anthropology, and is looking for a job. However, his specialty is the South Pacific.

Sincerely yours,

Elizabeth K. Ralph

EKR/bc

February 4, 1977

Mr. Stephen M. Epstein
Archaeological Sciences
Post-Graduate School of Physics
University of Bradford
Bradford, W. Yorks. BD7 1DP
England

Dear Mr. Epstein:

Thank you for your letter of January 29th.

I have enclosed a resume of MASCA, and I should be glad to talk to you in March. At this time we do not know whether or not we shall have an opening for a MASCA fellowship in the fall, 1977.

I have a preliminary copy of the program and abstracts for the Archaeometry conference. Your paper is scheduled for 9:35-9:50 A.M. Thursday, March 17th.

Sincerely yours,

Elizabeth K. Ralph

Archaeological Sciences
Post-Graduate School of Physics
University of Bradford
Bradford, W. Yorks. BD7 1DP
United Kingdom
January 29, 1977

Dr. Elizabeth K. Ralph
MASCA
University Museum
33rd & Spruce Streets
Philadelphia, PA 19174

Dear Dr. Ralph:

I have heard that you may soon have vacancies for student laboratory assistants in the MASCA thermoluminescence and radiocarbon labs. I have applied for admission to the University of Pennsylvania's anthropology Ph D program, and would like to apply for one of these positions. Enclosed is my résumé.

Also enclosed is a prospectus for the University of Bradford's MA course in "Scientific Methods in Archaeology," which I will have completed by April. I am now in the final stage of writing up my dissertation, a research project on source determination of Near Eastern obsidians by neutron activation analysis. My work at Bradford has convinced me that I would like to make a career in the application of scientific techniques to archaeological problems. My practical experience with neutron activation analysis would be well-followed by similar experience with thermoluminescence and radiocarbon dating. If possible, I hope to do a Ph D project based on one of these techniques.

Although I have not yet been published, I have submitted an abstract, Further Analyses of Near Eastern Obsidians, to the steering committee of the 1977 International Symposium on Archaeometry and Archaeological Prospection. Since I hope to present a paper, I will be in Philadelphia at the time of the conference, available for an interview should you want to meet me.

Rider College, in Lawrenceville, NJ, has offered me a temporary appointment as the instructor of an introductory anthropology class during Summer Session, so I will be available to begin work after August 1.

The above address will be valid until March 1.

Sincerely yours,


Stephen M. Epstein



Museum Applied Science Center for Archaeology

Froelich Rainey, Director

Elizabeth K. Ralph, Associate Director

THE UNIVERSITY MUSEUM • UNIVERSITY OF PENNSYLVANIA
33rd & SPRUCE STREETS • PHILADELPHIA, PENNSYLVANIA 19104
386-7400 (Area Code 215) Cable Address "Antique"

29 June 1978

MEMORANDUM FOR RECORD

SUBJECT: Abnati from Ur Submitted by Dr. Stephens for TL

1. I showed the six abnati to the Drs. Faul. They agreed that they were all made of limestone. Four were carved from larger pieces of fossilized bivalve shell, probably cretaceous. The small, pink stone seemed to be ordinary limestone. The larger, oblong stone contains either microfossils or algae flecks.
2. The abnati do not show signs of having been heated. A TL determination would give a date of approximately 100,000,000 years BP.
3. The large clay abnati received from Dr. Sjoberg, via Dr. Stephens has been processed. The clay appears to have been fired--glow curves obtained are not large enough to have been geologically accumulated. Dating was unsuccessful. The N-TL glow curve was badly distorted by a malfunctioning picoammeter, and the A-TL curve showed much spurious signal.
4. The clay abnati is still on hand, and I expect to try again to obtain a date from it this fall, when the TL apparatus has been modified to reduce the amount of spurious TL reaching the PM tube.



Stephen Matheson Epstein
Research Fellow

UNIVERSITY OF BRADFORD

Bradford West Yorkshire BD7 1DP
Telephone Bradford 33466 (STD Code 0274)
Telex 51309 University Brad

Postgraduate School of Studies in Physics
Chairman G Brown BSc PhD

Please quote ref SEW/WCC

Dr. E. K. Ralph,
M.A.S.C.A.,
University Museum,
33d & Spruce Streets,
Philadelphia,
Pa 19174.

16 February, 1977.

Dear Dr. Ralph,

I understand from Mr. Stephen Epstein that he has applied to you for a short-term appointment in your laboratory and that a letter supporting his application is required from me. I am very happy to do this.

Mr. Epstein joined our postgraduate course in Scientific Methods in Archaeology in October 1975 and passed the Diploma examinations at a very satisfactory level. He was then invited to continue his studies by undertaking a research project on the Near Eastern obsidian using neutron activation analysis. I have been very pleased with Epstein's development during his studies with us. He has carried out his work with great enthusiasm and the fact that he is still working on his dissertation is really because he has paid so much attention to detail. He is an archaeologist rather than a scientist but he is capable of a systematic approach to analytical work and will produce concise reports on any work required of him. You would find him to be an asset rather than a liability in your laboratory.

On the personal level we have been extremely fortunate to have with us a young man of excellent manners and pleasant disposition. We shall be sorry to see him return to the States.

Yours sincerely,

S.E. Warren

S. E. Warren.
Course Tutor.

UNIVERSITY OF BRADFORD

Bradford West Yorkshire BD7 1DP
Telephone Bradford 33466 (STD Code 0274)
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Postgraduate School of Studies in Physics
Chairman G Brown BSc PhD

Please quote ref GB/WCC

Dr. E. K. Ralph,
M.A.S.C.A.,
University Museum,
33d & Spruce Streets,
Philadelphia,
Pa 19174

16 February, 1977.

Dear Dr. Ralph,

I understand that Stephen Epstein has applied to you for employment in your laboratory and I am happy to support his application.

After graduating from the University of Pennsylvania and after a period in the U.S. Army, he came to Bradford in October 1975 to take our postgraduate course in Scientific Methods in Archaeology; a copy of the brochure is enclosed.

He is one of the best U.S. students that we have had. His performance overall in the examination would be equivalent to a 2:1 standard but his performance in the examination paper on the mathematical treatment of experimental data was excellent. He should submit his M.A. dissertation soon and I am certain the degree will be awarded.

He is a very pleasant, mature individual. His oral expression is excellent and he has demonstrated exceptional perseverance during his period here. He is able to present his ideas clearly and is an asset to any group. I am sure that if you are able to accept him he will justify this and will contribute to the work of your laboratory.

Yours sincerely,



Professor G. Brown.

1104 - 12th Street East
Saskatoon, Sask. S7H 0E2
May 11, 1977

Dr. Elizabeth K. Ralph
MASCA
The University Museum
University of Pennsylvania
33rd and Spruce Streets
Philadelphia, Pa. 19174
U.S.A.

rec'd 5/17/77

Dear Dr. Ralph:

I have received your letter, and am eager to begin work.

I'll be returning to New Jersey in late June and will come in to see you then.

Yours sincerely,



Stephen M. Epstein

SME called 5/19/77
If he comes, will start
Sept. 1, 1977

May 12th, 1977

Mr. Stephen M. Epstein
1104 12th Street East
Saskatoon, Sask. S7H 0E2
CANADA

Dear Mr. Epstein,

Since writing to you on May 6, 1977, I have found out that there are new complications regarding our MASCA grant renewal.

Therefore, I want to make it clear that my offer of a position in MASCA is contingent upon the renewal of the grant. In this regard, we do not expect further information for at least 45 days.

When I have definite information, I shall let you know.

Sincerely yours,

Elizabeth K. Ralph

May 6, 1977

Mr. Stephen M. Epstein
1104 12th Street East
Saskatoon, Sask. S7H 0E2
CANADA

Dear Mr. Epstein:

At last, we have good prospects for our MASCA grant renewal. Therefore, I should like to offer you the position of Research Assistant (or Fellow - dependent upon your graduate status) for one year. The new grant will be for one year only.

The position entitles you to free tuition except for the General Fee and a salary of about \$5,300. per year. Full-time work is required during the summer months (June, July, August) and half-time during the Academic Year, which limits you to taking a maximum of three courses.

I think that a starting date of August 1, 1977 would be fine. If our grant should be delayed, I shall let you know.

As we discussed in March, you will be required to do the routine processing of TL samples, and to perform other laboratory and field tasks as the need arises.

Sincerely yours,

Elizabeth K. Ralph

EKR:mbp

(over)

1104 12th Street East
Saskatoon, Sask. S7H OE2
C A N A D A
22 April 1977

Dr. Elizabeth Ralph
M.A.S.C.A.
The University Museum
33d & Spruce Streets
Philadelphia, PA 19174
U S A

Dear Dr. Ralph,

After discussing our plans for this summer with my wife, I would like to confirm that I would be able to begin working for you on 1 August or any day thereafter, if you and Dr. Han decide that you can use me.

Actually, I probably said much the same thing when we talked in Philadelphia. I am really writing to you because I'm getting nervous.

Sincerely,



Stephen M. Epstein

1104 12th Street East
Crescent, Sask. S4N 0A5
C A N A D A
22 April 1977

Michael Trostel

Fri - May 13th or 14th
301 - 727 - 3944

Dr. Ralph
A.A.S.A.
The University
330 &
Philadelphia
U S A

Dear Dr. Ralph,

After discussing our plans for this summer with my wife,
I would like to confirm that I would be able to begin working for
you on 1 August or any day thereafter, if you and Dr. Han decide
that you can use me.

Actually, I probably said much the same thing when we talked
in Philadelphia. I am really writing to you because I'm getting
nervous.

Sincerely,



Stephen W. Epstein

Physical Sciences Building
33rd and Walnut Sts.
EVERgreen 6-0100 ext 8168
16 January, 1961

Dear Eric:

Was glad to hear from Wally Broecker that you are coming to this "colony." I'm looking forward to seeing you in New York on Monday, the 23rd, and I hope that you will have time to come to Philadelphia during your visit here.

Have tremendous counting rates to show you, pp to 200 c/m. Unfortunately, they are from tritium contamination.

With best regards,

Beth

PERSONNEL

Short biographical sketches and bibliographies of the following personnel are attached.

Dr. Froelich Rainey, Principal Investigator

Miss Elizabeth K. Ralph, Principal Investigator

Dr. Henry N. Michael, Research Associate

The University of Pennsylvania would, of course, be paying the salaries of the Principal Investigators. Funds from NSF Grant G-14094 have been allocated to pay the Research Associate through 1961.

The main expense for salary proposed in this grant request is that of a full-time tree-ring specialist,

List of Collaborating Archaeologists

Dr. Alfred Kidder II - South America

Dr. Linton Satterthwaite - Mesoamerica

Dr. William Coe - Mesoamerica

Dr. Rodney S. Young - Anatolia

Dr. Roger Edwards - Anatolia

Dr. Ellen Kohler - Anatolia

Mr. Robert H. Dyson - Middle East

Dr. Rudolf Anthes - Egypt

Mr. Alan R. Schulman - Egypt

Dr. Carleton S. Coon - Middle East

Dr. Samuel Noah Kramer - Mesopotamia