

Dec 14, 1968

Dr. Ervel G. Rainey  
Director of the Museum  
University of Pennsylvania  
Philadelphia, Pa

ASCA  
Flann  
Please  
reply

Dear Director Rainey:-

Was so interested about  
your venture of archeology on Sybaris  
that was in Evening Bulletin newspaper.

One of the things interest me  
most is about Electronic Device that prompts  
me to write you if you would be glad to  
furnish me address of Varian Associates of  
California, May I ask please?

I thought I would write  
them to see if I could buy or rent one of the  
electronic device from them so I could  
use on my archaeology work as I am very  
anxious to locate the colonial stone wall

2/ underground of my ancestors graves  
on a plantation as I have been  
hunting around. It was on a farm  
of 200 acres. There was a wall  
enclosed but levelled off to make  
field work easy many years ago  
around 1840's. I found colonial  
formation or stone foundation of 1700's  
house, also a brick formation of 8 feet  
long and 1 ft wide that puzzle me about  
graveyard is still elusive yet.

So hope that the device might  
help me? - Not only to locate my ancestors  
but 10 or 12 Revolutionary War soldiers  
buried there, too.

Am sorry to cause you inconvenience  
for asking address but hope you understand  
my situation. Enclosing stamped envelope  
for your convenience.

Respectfully yours  
R. Milton Jennings

December 20, 1968

Mr. R. Milton Jeinnings  
2122 Old Beth Pike Road  
Quakertown, Pa. 18951

Dear Mr. Jeinnings:

Dr. Rainey has asked me to reply to your letter of December 14th.

The address of Varian Associates is 611 Hansen Way, Palo Alto, California 94303, and the best one to contact is Dr. Sheldon Breiner in the Analytical Instruments Division. Varian now makes a cesium magnetometer which is smaller than ours and sells for \$5,750.00.

Sincerely yours,

Elizabeth Ralph

ER/ek

January 4, 1968

Dr. Charles R. Jenkins  
Alliance Field School  
Alliance College  
Cambridge Springs, Pennsylvania

Dear Dr. Jenkins:

Thank you for your letter of January 2nd. Most radiocarbon laboratories of academic affiliation limit their dating programs to those of interest to the institution sponsor. Since we are associated with the University Museum, our programs are limited to the Near East and Mediterranean, South and Central America, the American Arctic, and the southwestern Pacific. Since none of the curatorial staff is involved in work within the United States, we cannot accept samples from that area.

May I suggest you contact

Dr. Austin Long  
Radiocarbon Laboratory  
Smithsonian Institution  
Washington, D.C.

or

Dr. J. Gordon Ogden III  
Department of Botany  
Ohio Wesleyan University  
Delaware, Ohio

Since my personal interest is the paleoIndian/Archaic manifestations in northeastern North America, I would be glad to help in some other way, if possible, and would be delighted to hear the results of your dating.

Sincerely yours,

Robert Stuckenrath, jr.  
Radiocarbon Laboratory



## ALLIANCE COLLEGE

Cambridge Springs, Pa. 16403

January 2, 1968

Mr. Robert Stuckenrath Jr.  
Radio-Carbon Laboratory  
Applied Science Center for Archeology  
University Museum, 33rd and Spruce Streets  
Philadelphia, Pennsylvania

Dear Mr. Stuckenrath,

I am writing to request your assistance in a matter of some importance.

The Alliance College Archeological Field School has just completed excavation of the Tobin Site (36Cw27), an Archaic location in northwestern Pennsylvania. This site has produced features and artifacts of direct relationship with Archaic manifestations in New York and Canada. Therefore, the dating of this site will be of great importance.

We have collected charcoal samples from several fireplaces. However, there are no laboratories in our immediate vicinity, equipped for radio-carbon dating. Since we operate on an extremely limited budget, commercial laboratories are beyond our resources.

Dr. Elmer Harp of Dartmouth College has suggested that perhaps you would make your facilities available at a reasonable fee.

Will you please inform me if such an arrangement could be made? We would be most grateful for any assistance.

Sincerely yours,

Charles R. Jenkins  
Associate Professor  
Director: Alliance Field School

✓ Johnson

Techniques

September 22, 1963

Dear Larry:

I am just back from vacation and have the last report from the Petty Company on the sonic device. Beth Ralph has been there and tells me that you or they have proposed to build an instrument now that they have succeeded in getting satisfactory penetrations of the ground. I suppose this means that we will get back to the Pew Foundation for an additional grant. I wonder if you could give me a very frank opinion about all this and what you think roughly it might cost.

Needless to say, you have been proved dead right about the ~~meeting the~~ kind of research Petty has been doing and I have long since been convinced that MacLaughlin did not really know what he was getting into. As you told me his device has been quite useless, and I am right now very anxious to find out what he has worked out with Frederick Romberg, since I know he was to make other instruments for some additional testing. At the moment we cannot find him anywhere.

They just tell me, at the office here, that you have been transferred to Texas and I wonder what you are up to these days. We are as busy as ever, and I am most anxious to do something to complete our development of our sonic device. Any advice you can give us would be most appreciated.

Most sincerely,

Froelich Rainey

Mr. F. L. Johnson  
~~Richardson Laboratory~~  
~~Dallas, Texas~~

check name  
file  
for address

ROBERT S. PEABODY FOUNDATION FOR ARCHAEOLOGY  
PHILLIPS ACADEMY  
ANDOVER, MASSACHUSETTS

April 10, 1961

Dr. Elizabeth K. Ralph  
The University Museum  
University of Pennsylvania  
Philadelphia 4, Pennsylvania



Dear Beth:

You and Linton Satterthwaite are certainly to be congratulated on one of the best studies, or whatever they may be called, which produces a date of a phenomenon in an archaeological site. I hope that others will read and follow suit, and find a patient supervisor of a laboratory to show them the way.

Thank you for the reprint; I value it.

Cordially yours,

A handwritten signature in cursive script, appearing to read "F. Johnson".

Frederick Johnson

FJ/tg

RADIOCARBON DATES ASSOCIATION, INC.  
ANDOVER, MASSACHUSETTS

Please reply to:

Box 71  
November 29, 1961

Dr. Elizabeth Ralph  
Randall Morgan Laboratory of Physics  
University of Pennsylvania  
Philadelphia 4, Pennsylvania

Dear Beth:

I am enclosing for your edification the list of materials which we use in compiling the punch cards. We have tried to keep this at a minimum. At the beginning, no one seemed to be interested. We also thought originally that the fewer categories the better since it would be easier to sort them. The list has grown and, as a matter of fact, there may be a few "materials" listed on the cards which are not shown on here. You must recognize, too, that some of the descriptions leave much to be desired, and so the typist gets out her Ouija Board and selects a name.

I wrote a stupid letter to MacNeish to see if he would permit wandering electronics manipulators to investigate his sites. It will be interesting to see what he has to say. It may take a little time for him to thaw out. He is driving a new Land Rover without heater from Ottawa to Mexico City, leaving December 1. I suspect he will be in a condition to freeze ice cream by the time he reaches St. Louis.

I have lost the poop sheet on the Geochron Laboratories, Inc. but the telephone book gives their address as, 24 Blakstone Street, Cambridge, Massachusetts. They sent out a bibliography, but since it dealt only with potassium argon and some geophysics which I did not understand either, I guess that I tossed it out. Perhaps they have one they can send to you. The two "Managers" have been out to see me and so you can use my name if it will be useful.

I now have three places to go during late July and early August. I can throw out one, but how do I choose between Mexico and England if the dates conflict?

Cordially,



Frederick Johnson

FJ/tg  
enc.

October 5, 1966

Dr. Frederick Johnson  
Robert S. Peabody Foundation for Archaeology  
Box 71  
Andover, Mass. 01810

Dear Dr. Johnson:

Thanks for your good letter. I've enclosed a photo in which I think you can see the dotted lines. Since then, we have dated bristlecones back to 2600 B.C. Within the next two months we shall be doing more and hopefully, compiling the results for a Date List. I'll be glad to send you a copy of these results when we have them ready.

I returned from Italy last week after a six-month session in Europe. I'm still catching up with what has been going on here in the interim.

With best regards,

EKR:LF

E. K. Ralph

*Arch.  
Techniques*

December 22, 1964

Dr. Jotham Johnson  
Department of Classics  
New York University  
New York 3, New York

Dear Dr. Johnson:

This is a reply to your letter of December 14 regarding the rubidium magnetometer.

Here is the situation. The rubidium magnetometer certainly is 100 times more sensitive than the proton magnetometer, but in many cases this greater sensitivity can not be utilized. At Sybaris we have deeply buried structures in a fairly homogeneous clay deposit. The results were really sensational. But working on a shallow deposit in Canada last summer the results were nil.

There is a very good possibility that this great sensitivity can be utilized on your mound at Aphrodisias, although we could not at this point be certain because we are dealing with a highly experimental instrument.

We had a "bread board" model at Sybaris and we are now working out a simplified and improved model for archaeology with the Varian Corporation at Palo Alto, California. The present equipment would cost about \$25,000.00 and it really is not ready for use in the field as it is. We hope to have the new model ready by spring and we will be interested in trying it out at various sites. But it will be used by one of the technicians from the Varian Corp. in collaboration with us. You will see that I can not really make any promises for June or July 1965 knowing how these experimental things go. But if all goes well, your mounds sound like a good proving ground; so, I would like to keep in touch with the hope that we might do it for you.

Very best wishes,

Froelich Rainey  
Director

NEW YORK UNIVERSITY

DEPARTMENT OF CLASSICS

TELEPHONE: SPRING 7-2000

NEW YORK 3, NEW YORK

December 14, 1964

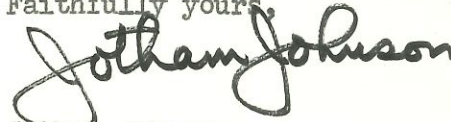
Dear Dr. Rainey:

The papers have carried stories about the University Museum's use of the rubidium magnetometer to map Sybaris, and described the instrument as "100 times" as sensitive as any previously used in archaeological exploration. I have the Times clipping before me.

At Aphrodisias we have, within the city, a large mound which appears in field notes as the "acropolis." But the "fortification" walls on it are walls of public buildings, a theater, a nymphaeum, warehouses, etc.; and the mound itself, when we cut a pit in its summit, turned out to be not a rocky outcrop but clean dirt, a man-made mound. It seems unlikely that it can be anything but a funeral mound like the ones Rodney has at Gordion. It may have been violated, of course, but you can see the possibilities inherent in an intact burial of an early Carian prince. The mound has slumped somewhat—it is now about 500 feet in base diameter and about 90 feet high. Under it, we suspect, is an Early Bronze Age settlement.

This brings us to my questions: If the mound does contain a burial chamber and funeral deposits which include metal, can we reasonably expect the rubidium magnetometer, expertly used, to pinpoint its location in the mound? If so, can the instrument be purchased at the market and can an impecunious expedition afford one, or should we explore the possibility of renting or borrowing one?—would you consider some form of proposition by which your magnetometer and your technician(s) to operate it would spend a week at Aphrodisias in June or July 1965?

Faithfully yours,



Jotham Johnson

Dr. Froelich G. Rainey  
University Museum  
33rd and Spruce Streets  
Philadelphia 4, Pennsylvania

cc: Professor Kenan T. Erim

July 2, 1962

Mr. Robert B. Johnston  
Indiana Historical Society  
Angel Mounds Archaeological Research Station  
Newburgh, Indiana

Dear Sir:

Your letter to Dr. Rainey of May 29 has finally reached me. My apologies for the delay in answering.

The "Geohm" resistivity device is made by P. Gossen and Company, distributed in this country through National Electronics, P.O. Box 1237, Sheridan, Wyoming, and, in 1961, cost \$95.63 each. The gentleman with whom we have been corresponding at National Electronics is Mr. Harold F. Demple, General Manager.

Sincerely yours,

Robert Stuckenrath, jr.  
Research Associate

*Over*

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Angel Mounds Archaeological Research Station  
Newburgh, Indiana  
May 29, 1962

Dr. Froelich Rainey, Director  
University Museum  
University of Pennsylvania  
Philadelphia 4, Pennsylvania

Dear Dr. Rainey:

Glenn Black has asked me to write to ask the address of the manufacturer or distributor of the "Geohm." Would you also be good enough to indicate the cost of the device?

Our use of the Elstec mangetometer continues and, in fact, the field school program here this summer will center upon a systematic coverage of parts of the site with subsequent excavation to verify the indicated magnetic anomalies. Our experience with the instrument, incidentally, has not been entirely without problems, perhaps the principal difficulty being with ferrous interference in the form of small buried pieces of iron. We even have reason to believe that rust remnants of ferrous material (notably fragments of fence wire) will cause a spurious reading. We have been searching for a detector which will react to metallic objects only so that we can positively identify suspect readings as erroneous. However, after a good deal of correspondence, we have not found an instrument which will react only to metallic objects or appears to be nearly sensitive enough.

In any case, I would appreciate the information on the Geohm and then perhaps we will become taken up with the problems of that instrument also.

Sincerely yours,

*Richard B. Johnston*

Richard B. Johnston  
Research Associate

rbj/jeh

*Handwritten signature*

June 27, 1953

✓  
Dear Mr. Jordan:

I was pleased to hear sometime ago from my office that you are interested in Carbon 14. Our second laboratory has just been completed and we would be very happy to have you come in to the Museum to visit the two laboratories where the analyses are being run.

Miss Elizabeth Ralph is in charge of this research and I know she would welcome the opportunity to show you what is being done and to discuss Carbon 14 with you.

Sincerely yours,

Froelich Rainey  
Director

Mr. C. W. Jordan  
P. O. Box 309  
Paoli, Pennsylvania

/GA

c.c. Miss Ralph

C. C. MILES

CV

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P. O. Box 308  
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Miss Ralph

TO : Dr. Aravind K. Joshi ✓  
Chairman, Department of Computer and Information Sciences  
Moore School of Electrical Engineering

FROM : Froelich Rainey  
Director, University Museum

DATE : November 27, 1974

SUBJECT: Computer graphics facility

Dr. Kritikos, in the Department of Electrical Engineering, has said that you have plans for developing a computer graphics facility.

There are several applications for this proposed graphics display terminal which would be valuable for the work of our staff. Some of these are: typology of pottery sherds, processing of satellite photographs, and computer analysis of geophysical maps. All of these projects would be aided by a fast, flexible display of pictorial data.

BRITISH MUSEUM (NATURAL HISTORY)

Cromwell Road,

London, S.W.7

Telegrams: NATHISMUS, LONDON, S.W.7

Our ref: DRB/MB

22nd June 1973

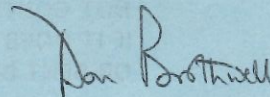
Dr Mark C Han  
Applied Science Center for Archaeology  
The University Museum  
University of Pennsylvania  
Philadelphia  
Pennsylvania  
USA

Dear Dr Han

This letter is to warn you that Harold Barker, Geoffrey Dimbleby and myself - with Academic Press support - are starting a Journal of Archaeological Science. We feel strongly that there is a real need for a journal to publish a wide variety of Scientific studies in archaeology, from biological and climatic to physical-chemical. If we get good support, in the form of offers of high standard papers, we hope to publish the first quarterly issue early next year. Obviously we need papers in our hands over the next few months, and if you have finished or are completing work which you think might fit into this journal, I should be extremely pleased to hear from you.

With best wishes

Yours sincerely



D R Brothwell

P.S. Also, of course, if you think any of your colleagues may be interested in this new publishing medium, I should be glad to have information.

TO OPEN SLIT HERE

SENDER'S NAME AND ADDRESS

BRITISH MUSEUM (NATURAL HISTORY)

CROMWELL ROAD,

LONDON, S.W.7.

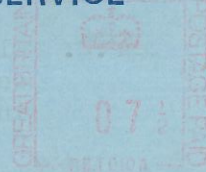
Mr D R Brothwell

AN AIR LETTER SHOULD  
NOT CONTAIN ANY ENCLOSURE;  
IF IT DOES IT WILL BE SURCHARGED  
OR SENT BY ORDINARY MAIL

SECOND FOLD HERE

**BY AIR MAIL**  
**AIR LETTER**  
PAR AVION AEROGamme

ON HER MAJESTY'S SERVICE



Dr Mark C Han

Applied Science Center for  
Archaeology

The University Museum

University of Pennsylvania

Philadelphia Pennsylvania USA

SRB

June 29, 1973

Dr. D. R. Brothwell  
British Museum  
Cromwell Road  
London, S.W.7

Dear Dr. Brothwell:

Mark Han has referred your letter of June 22nd to me, and I am writing to say that we approve heartily of your plan to start a new Journal of Archaeological Science.

Several of us are spending part of the summer writing up results of research that must be published soon. The first that will be ready is a summary, explanation, and interpretation of the C-14 dating of tree-ring dated samples (sequoias and bristlecone pines). We plan to have this ready within two weeks and to publish it in a special issue of our MASCA Newsletter. Would you consider reprinting an expanded version of the article? We feel that we ~~are~~ arriving at a much truer calibration curve and tables for the correction of C-14 dates than that wiggly old curve of Suess' (based on only            dates) and that our curve, based on 600 dates should be widely advertised. In fact, there will be a short article about these results published by Time/Life in the near future.

Another article in preparation is the result of a successful cesium magnetometer survey at Malkata, Egypt. Ruins of 18th Dynasty mud-brick houses were found as well as clues as to the location of the ancient harbor.

We have also been dating various Egyptian dynasties by C-14 and thermoluminescence (Th) and are preparing articles to report these results.

We think that we are on the trail of some fundamental break-throughs in regard to the basic mechanisms behind TL dating, and also the means of determining the firing temperatures of pottery. These results could be reported within the next year.

As for the press, we respect Academic Press but not Seminar Press. The book entitled "Dating Methods in Archaeology" by Joseph Michels, we feel, is a disgrace. We have read and recommended your book Science in Archaeology for many years so that perhaps, you will agree with us in this respect.

Sincerely yours,

Elizabeth K. Ralph

EKR/ek

March 4, 1975

Dr. Henry Judd  
Division of Archaeological and Historical  
Preservation

✓ National Parks Service  
Washington, D.C.

20240

Dear Dr. Judd:

As one of our MASCA activities, we have been experimenting with the preservation of mud-bricks, friable stones, etc. at various sites.

One of the main experiments was being conducted at Chaco Canyon. Darrel Butterbaugh, our research chemist, tried out several polymers manufactured by Rohn & Haas. Butterbaugh is in Florida until May ~~so~~ that I do not know his exact contacts, but I think that he was working with Dr. Alden Hayes and possibly Dr. Robert Lister.

Butterbaugh called to ask how the preservation was holding up, and was told that someone in Washington D.C. has said ~~that~~ no more experiments with polymers were to be conducted and ~~that~~ only mud and cement could be used.

Dr. John Cotter suggested that I write to you to find out if this silly ruling from Washington could be corrected.

Sincerely yours,

Elizabeth K. Ralph