

March 12, 1962

Dr. F. Rainey, Director
University Museum

Dear Dr. Rainey:

I am enclosing a copy of my vita which may be of interest to you in your search for funds to support work on research and development in new techniques for archaeology. I stated to you earlier I should like to offer my services as an unpaid consultant for any work where you feel I may make a contribution.

We have, of course, in the School of Metallurgy a great deal of equipment such as metallographs and electron microscopes, both for reflected and transmitted light. We have x-ray equipment for examination of metals and materials, and all of the necessary polishing equipment. There are available mass spectrographs, kilns, furnaces, etc.

I feel that the work you and Miss Ralph and your colleagues are doing is of intense interest. Furthermore, I consider that there is the opportunity to create here at Penn a major effort in the application of science to the solution of archaeological problems.

I have read your proposal dated 1 September, 1961 to the National Science Foundation and consider that there are a number of areas in which we can be of some help to you, especially in aiding the establishment of an information center on new techniques, in your chemical laboratory expansion and, to a lesser extent, in your development of "underground explorers".

Sincerely yours,


R. Maddin

RM-gp
Encl.

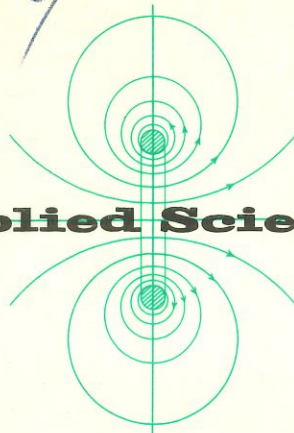
CC Miss E. K. Ralph

OPY

Hotel Miramare
Trebisacce
Cosenza, Italia

5 May, 1963

Arch. Tech



Applied Science Center for Archaeology

THE UNIVERSITY MUSEUM • UNIVERSITY OF PENNSYLVANIA
33rd & SPRUCE STREETS • PHILADELPHIA 4, PENNSYLVANIA
Froelich Rainey, Director EVergreen 6-7400 (Area code 215)
Elizabeth K. Ralph, Associate Director
EVergreen 6-0100 Ext. 8168 (Area code 215)
Cable Address "Antique"

Prof. Robert Maddin
Dept. of Metallurgy
University of Pennsylvania
Philadelphia 4, Pa.

Dear Prof. Maddin:

Mrs. Dellevigne has written to me about the rejection of our grant proposal (History and Chronology of Metals). Dr. Rainey and I were both sorry to hear that it was rejected. At the moment, while we are in Italy, there isn't much that we can do about it, and we think it best to terminate Mr. Reed Knox's part-time employment in the Museum.

If Mr. Knox has already started a project, the termination could take place at the end of this month, in June, or as soon thereafter as you think best.

Our work here is progressing but so far, not very encouraging. With two drills, we are taking samples of the stratigraphy and pot sherds (when they appear) all over the plain of Sybaris and also in the foothills. We are finding sherds near the region where we worked last year, but very few in other zones. This week we found 3 walls at depths of 4 and 6 meters, but, unfortunately, in the region where the water table is high and excavation is difficult.

I tested a new sonic instrument yesterday which just arrived, but it looks as if it's not sending waves or impulses into the ground with sufficient power to see reflections from buried walls -- more tests on Monday. Our proton magnetometer behaves well, but unless walls are in magnetic clay at depths of 5-6 meters, or viceversa, there isn't sufficient difference in magnetism for them to be detected with the magnetometer.

With best regards,

Beth Ralph

Dear Anne,
Many thanks for your letter. If you don't hear from Dr. Maddin in a week or so about terminating Knox, perhaps, you could call him. Please tell Knox that I am sorry about this.

Perhaps, we'll have a gang here eventually, but at the moment, io solo con italiani - ma e buona per parlare italiani. Scusi, ma no so scrivere bene italiano. Saluti
Beth

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 19104

(215) 243-5241

MASCA

University Professor of Metallurgy
ROBERT MADDIN

January 26, 1982

Dr. Stuart J. Fleming
Scientific Director
Museum Applied Science Center for Archaeology
181 Museum/F1

Dear Dr. Fleming:

In the reorganization of MASCA at the time you became Scientific Director, four associate directors were appointed. When Dr. Martin Biddle asked me to become one of these directors, I readily agreed because there were many useful functions I believed MASCA could fulfill and ways I could contribute to its usefulness.

Since the time of that reorganization, however, there has never been a meeting of the associate directors with you and you have not solicited their advice. It is apparent that the associate directors have no function to fulfill.

Therefore, I am resigning from the position of associate director as of this date. Please remove my name from any association with MASCA.

Sincerely,

Robert Maddin
Robert Maddin

RM:dms

cc: Dr. R. H. Dyson, Acting Director, The University Museum
Dr. F. Otto Haas, Associate Director, MASCA
Dr. E. Ralph, Associate Director, MASCA ✓
University Museum Curators: Drs. W. R. Coe, W. H. Davenport,
S. F. Iakovidis, E. Leichty, A. W. Sjoberg

March 13, 1976

Mr. Oscar Magnan, S.J.
Saint Peter's College
2641 Kennedy Boulevard
Jersey City, New Jersey 07306

Dear Mr. Magnan:

About your terracotta and the fact that you cannot part with three grams for TL dating, I think that Mrs. Thompson's examination is the best that can be done.

She is certainly the expert.

Sincerely yours,

Elizabeth K. Ralph



SAINT PETER'S COLLEGE
2641 Kennedy Boulevard
Jersey City, New Jersey 07306

March 9, 1976

Miss Elizabeth K. Ralph
Associate Director
The University Museum
University of Pennsylvania
33rd. & Spruce Streets
Philadelphia, Penn. 19104

Dear Miss Ralph,

Thank you so much for your letter of February the 26th. I am sorry I could not attend the lecture of Dr. M.A. Stoop at Princeton and have met you then.

Concerning my terracotta, I am afraid, after reading your letter, I will not be able to have the TL dating made, since at least 3 grams of the piece are required. It is a rather small piece of 6 3/4", all in the round with a very small air vent.

I have great interest in dating ~~that~~ particular piece, but by doing so I will have to destroy a good portion of it.

If you know of any other method I will very much appreciate this information.

Thanking you for your kindness.

Sincerely yours,

A handwritten signature in cursive script that reads 'Oscar Magnan'.

Oscar Magnan, SJ

February 26, 1976

Mr. Oscar Magnan
St. Peter's College
Jersey City, N.J. 07306

Dear Mr. Magnan:

In regard to your terracotta, it would be helpful if you could fill out most of the items of information as specified on the enclosed sheet.

I plan to attend Dr. M.A. Stoop's lecture at Princeton at 4:00 P.M. on March 3rd. It will probably be possible to discuss it with Mrs. Thompson at that time. If you are planning to attend the lecture, please bring it with you.

Sincerely yours,

Elizabeth K. Ralph

P.S. At least 3 grams are required for TL dating.

SAINT PETER'S COLLEGE

KENNEDY BOULEVARD • JERSEY CITY • NEW JERSEY • 07306

DEPARTMENT OF FINE ARTS

Feb. 20, 1976

Miss Elizabeth Ralph
Technical Lab
University Museum
Pennsylvania Phila 19074

Dear Miss Ralph:

Mrs. Dorothy Burr Thompson from the Institute for Advanced Study in Princeton has been examining a terracotta of mine and has suggested that I write to you in order to make a more precise examination through your lab.

I will appreciate if you could let me know whether it would be possible to do so. In case of an affirmative answer I could bring the terracotta to you, or send a little bit from the back of the piece. I would like to know how much of the clay is needed and the cost involved.

I would very much appreciate an answer from you.

Sincerely yours

Oscar Magnan S. J.

MALLOWAN

Winterbrook House,
Wallingford,
Berkshire.

17th December 1973

My dear Fred,

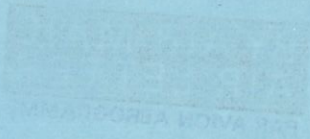
Thank you indeed for your letter of
December 5th and for promising the MASCA news-
letter.

I am sure that you are on to something
very good in Malyun and hope to hear more
about it. I see no reason to believe that
everything began in the Near East, but I do
still believe that for what we call civilization
and writing the Near East has as good a claim to
primacy as any. Your remark about time is most
interesting.

Our best Christmas wishes to you and yours
and thank you again,

Yours
Mike Mallowan

OR SENT BY ORIGINAL MAIL
IF IT DOES IT MAY BE SUGGESTED
NOT CONTAIN ANY ENCLOSED
OR A LETTER SHOULD



Dr. Michael Mallowan
The University Museum
University of Liverpool
Liverpool, Merseyside

TO OPEN SLIT HERE

SENDER'S NAME AND ADDRESS (PLEASE SHOW YOUR POSTCODE)

Sir Max Mallowan, C.B.E.,

Winterbrook House,

Wallingford,

Berkshire,

England.

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

SECOND FOLD HERE

BY AIR MAIL
AIR LETTER
PAR AVION AEROGamme



Dr. Froelich Rainey,
Director,
The University Museum,

University of Pennsylvania,

Thirty-Third and Spruce Streets

Philadelphia, Pa 19174,

United States of America.

VENNARD COLLEGE

UNIVERSITY PARK, IOWA

Phone 673-8391 Area Code 515

Paul C. Maloney
Dept. Christian Soc. Service
February 5, 1968

Dr. Elizabeth K. Ralph
Associate Director
Museum Applied Science Center for Archaeology
The University Museum
University of Pennsylvania
Philadelphia
Pennsylvania
19104

Dear Dr. Ralph:

Thank you so much for your reply to my letter of Jan. 24 to which you replied so promptly. And thank you also for the materials and slides you have sent me on radiocarbon 14 and on the laboratory there.

I wish to correct an impression I left in my letter to the effect that Westinghouse laboratories reported having been able to change the decay constant of C¹⁴. I was reviewing an anti-evolutionary article written in a Fundamentalist journal ("The Bible and Evolution", by Ch. C. Ryrie, in: Bibliotheca Sacra, Vol. 124, no. 493, ^(Jan-Mar. 1967) pp. 66-78, esp. p. 71. "Carbon 14, which the average layman thinks can measure accurately for any length of time, begins to have an important margin of error after 20,000 years. Furthermore, recently at Westinghouse laboratories the rate of decomposition was artificially altered three per cent.").

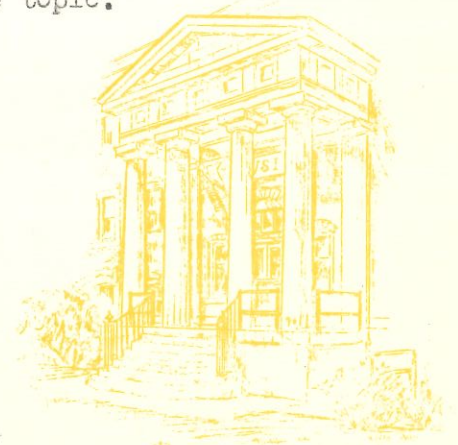
I wrote to Westinghouse Laboratories and received the following answer which has clarified the matter and which I think you might be interested in: "In a very sophisticated experiment and for an unusually specific case, some scientists in our laboratory were able to demonstrate the change of decay time of Fe-57. As far as we are aware, there is no way to change the decay constant of C-14." The letter was signed by K.H. Sun the manager of the Radiation & Nucleonics Laboratory.

Your materials will be a splendid boost to building the lectures on C-14. I am concerned that I present an accurate treatment of the topic.
Thank you again.

Sincerely yours,



Paul C. Maloney
Chairman



January 18, 1968

Dear Professor Marinatos:

I was indeed pleased to see in the New York Times last Saturday your very nice comments disassociating Beth Ralph and Emily and myself from the Mavor fiasco and noting that we were not excluded from the work at Thera in the future. We are of course very much interested in working with you and I would like to explore the possibilities with you. Sometime in March I should be returning to Italy to see what we can next do at Sybaris and I must go on to Cairo since we expect to have three expeditions operating there in late winter and early spring. So, if you are in Athens at that time, that is late March or early April, I will stop by in Athens to discuss the matter with you. As you know, Beth Ralph is all scheduled to arrive at Elis this spring with the cesium magnetometer to complete the survey there which we are anxious to do in order to demonstrate the usefulness of this new instrument. Also we are continuing with our infrared aerial photographic experiments (we have one going now in eastern Mexico) and if results are good I suppose we should try this over Elis in conjunction with the magnetometer survey.

Incidentally our monograph on the search for Sybaris will shortly be distributed and I am most anxious to get your ideas about this. I hope you can find a little time to look it over as soon as I get a copy to you and give me your most candid opinion about the results so far.

Professor Spyridon Marinatos

Page 2

January 18, 1968

Fundraising for the new wing in the museum here is now getting on pretty well, so I expect I can get away in March to the Mediterranean and Near East.

All very best wishes.

Sincerely,

Froelich Rainey
Director

Professor Spyridon Marinatos
47, Polyla Street
Athens 903 Greece

FGR/sjc

THE UNIVERSITY MUSEUM



UNIVERSITY OF PENNSYLVANIA

THIRTY-THIRD AND SPRUCE STREETS

PHILADELPHIA, PA. 19104

CABLE ADDRESS "ANTIQUE"

TELEPHONE: EVERGREEN 6-7400

(AREA CODE 215)

August 1, 1968

Professor Spyridon Marinatos
The Inspector General
Ministry to the Prime Minister's Office
General Direction of Antiquities
Athens, Greece

Dear Professor Marinatos:

Thank you very much for sending me a copy of your article entitled "Excavations at Thera." I enjoyed reading it very much and appreciate your kind mentions of me.

I am wondering if the map of Elis with the locations of the magnetometer grids has now been prepared. If it has, I shall appreciate it very much if someone would send me a copy. There has been a delay also in having the grids photographed and reduced in size, but this is now scheduled for next week. Hopefully, I shall find time to study the overall picture and write my report in August.

I hope that your excavations at Thera are equally successful this year. I shall be eager to hear about them when George Bass returns.

With best regards,

Beth Ralph

BR/ek

Athens August 23, 1968.

Miss Beth Ralph
Museum Applied Science
Center for Archaeology
The University Museum
University of Pennsylvania
33rd Spruce Streets
Philadelphia, Penn. 19104

Dear Miss Ralph,

I have just come back from Santorini and I must say I've got very angry seeing that the maps you had asked for was not ready yet. It is true there is an excuse for it, that is the competent employees had too much work to do. Anyway I've ordered for your map to be ready the soonest possible and do hope you will get it without further delay.

With best regards,



Prof. Sp. Marinatos

September 28, 1968

Professor Sp. Marinatos
The Inspector General
Ministry to the Prime Minister's Office
General Direction of Antiquities
Athens, Greece

Dear Professor Marinatos:

Thank you for sending the map of Elis. Now, I must apologize for the delay in sending you my report. While waiting for the map, I had the magnetometer grids photographed and reduced to a scale of 1:1000. When the map arrived, it was 1:2000, so we have had to redraw it. This has required more time than it should have had, but I hope to have a report ready within a few weeks.

In the meantime, I have written a short summary of all of our instrument surveys for publication in the Museum bulletin, EXPEDITION, (copy enclosed). If what I have written about Elis is not correct, please do not hesitate to let me know.

With best regards,

Beth Ralph

BR/3k
Enclosure

Atem

Athens, May 12th 1971

Miss Elizabeth K. Ralph
Associate Director
The University Museum
University of Pennsylvania
33rd & Spruce Streets
Philadelphia, Pennsylvania 19104

U . S . A .

Dear Miss Ralph,

Thank you very much for your letter of April 16th, 1971 and for the enclosed list of sample datings from Sesklo. Needless to add that I am eagerly expecting to hear the results about the samples from Marathon. I hope that I shall receive them soon.

About Santorini, it is possible that I shall be there in July, for certain in August.

Looking forward to seeing you soon, I am

Sincerely yours,

Sp. Marinatos

Prof. Sp. Marinatos
General Inspector of Antiquities

*Henry
Will arrive after
mid-July w. CIA dates
for Marathon.
~~Bombina -
Marathon CIA dates~~*

October 5, 1974

Mrs. Spyridon Marinatos
47 Polyla Street
Athens (9), Greece

Dear Mrs. Marinatos:

It was with deep regret that Henry Michael and I learned of Professor Marinatos' sudden death, and we want to send you all of our sympathy.

We both hold the highest regard for Professor Marinatos, and shall remember him always as a great person.

Sincerely yours,

Elizabeth K. Ralph

EKR/jbq



University of Otago

DUNEDIN, C.I
NEW ZEALAND

Dept. of Botany
June 11, 1965.

Miss Elizabeth Ralph,
University Museum of Pennsylvania,
Philadelphia, Penn.,
U.S.A.

Dear Miss Ralph,

Your name was given to me by Dr. Edward Deevey, as one who would be able to supply me with the latest information on variation in concentration of radiocarbon with time and location on earth. I am beginning a dendrochronological study of some rather ancient conifers (Podocarpus hallii) growing under semi-arid, sub-continental conditions in south-central South Island. In addition to the living trees, which are rather localised & confined to rock outcrops, log remains of the same species are widespread throughout the tussock grasslands of eastern & central South Island & several that have been radio-carbon dated indicate major deforestation about the 14th Century. This has been attributed to a combination of climatic change & fires lit by the natives (Maoris) prior to European settlement.

I would appreciate any assistance with pertinent literature on radiocarbon or dendrochronology as we are very short of it in our library.

Yours sincerely
(A.F. Mark) Alan F. Mark, Lecturer in Ecology

BY AIR MAIL

AEROGRAMME



SPEED DELIVERY

If anything is enclosed,
this form will be surcharged
at rate for Air Mail Letters.

Miss Elizabeth L. Ralph,
University Museum of Pennsylvania,
Philadelphia,
Pennsylvania,
U. S. A.

First fold here

Second fold here

SENDER'S NAME A. F. Mark (Dr.)
AND ADDRESS Botany Dept.
Univ. of Otago,
Dunedin
New Zealand.

To open cut here



To open cut here

June 28, 1965

AIR MAIL

Dr. A. F. Mark
Dept. of Botany
Univ. of Otago
Dunedin, C.1
New Zealand

Dear Dr. Mark:

In response to your letter of June 11th, I have enclosed a preprint of our Date List VII which contains our results of C-14 measurements of tree-ring dated sequoia and bristlecone pine samples.

For dendrochronology, I think that the best sources of information about recent advancements are the Bulletins of the Laboratory of Tree-Ring Research, Univ. of Arizona, Tucson, Arizona. Dr. Bryant Bannister is now the Director.

I shall be glad to try to answer any specific questions that arise if you care to write again.

Sincerely yours,

Elizabeth K. Ralph

EKR/deh

Encl.

Boss

December 15, 1968
4506 Ave. ^{Q2}
Galveston, Texas
77550

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

*Can you
give full
send a note
on your photos
survey
Jro*

Dear Dr. Rainey:

I read with great interest the enclosed article in regards to your recent discovery.

I am associated with a small group and our interest is locating ancient ship wrecks along our Texas coast.

I am curious as to whether this cesium magnetometer would work over salt water and locate ferrous and non-ferrous masses.

I hope this inquiry will not inconvenience you in any way, and I shall appreciate your reply as to the manufacturer so that I might obtain additional information,

Sincerely:

Edmond Marsh

Edmond Marsh

December 18, 1968

Mr. Edmond Marsh
4506 Avenue Q1/2
Galveston, Texas 77550

Dear Mr. Marsh:

Dr. Rainey has asked me to reply to your letter of December 15.

The cesium magnetometer would work very well over salt water to locate ferrous objects or masses. Non-ferrous metals would probably not be detected unless they contained ferrous impurities.

Cesium magnetometers are manufactured by Varian Associates, 611 Hansen Way, Palo Alto, California 94303 and the best person to contact is Dr. Sheldon Breiner, Analytical Instruments Division.

I have enclosed a reprint in which our particular instrument is described. Varian now makes a more compact one which sells for \$5750.

Sincerely yours,

Elizabeth K. Ralph

EKR/cvf
Enclosure

MARTIN

RESEARCH LABORATORY FOR ARCHAEOLOGY
AND THE HISTORY OF ART

TEL. 55211

6 KEBLE ROAD
OXFORD

and was a delightful
surprise — and delicious.

Tom is just beginning
here and the weather is
better than the whole
summer. I am looking
around for excuses for
surveying.

With best wishes
Yours ever

Martin

P.S. The geological report on the
sand samples should be despatched
to-day. But probably Fro has
moved on by now to something else!

RESEARCH LABORATORY FOR ARCHAEOLOGY
AND THE HISTORY OF ART

TEL. 55211

6 KEBLE ROAD
OXFORD

[MANKIN]
[MANKIN] 18th Oct. 1962.

Dear Bett,
I'm afraid you will be thinking me very rude in not thanking you for the prints and slides of the "Islip Scavo". It got into our new, but not very competent, secretary's book, but didn't get out onto the typewriter. I do apologise. In fact the prints were shown in the village Post office and much appreciated

by one and all — mollifying
the back-biting women
thank goodness.

In my last letter also,
these should have been
included prints of the
aerial photographs of the villa.
Whether or not they were,
is anybody's guess — but
I will send you some
more, for as I fear, they
were sent to someone
else who hadn't the slightest
idea what they were!

I drank the last bottle of
Italian wine, last night, of those
that you brought us so
kindly. It had got
tucked away in a corner

MARTIN-CLARK INSTRUMENTS

19 THE CROSSWAYS, ONSLOW VILLAGE,
GUILDFORD, SURREY

THE OLD BARN, TRUMPET HILL,
REIGATE, SURREY

PLEASE REPLY TO ~~REIGATE~~ GUILDFORD

6 May 1966

Miss E. K. Ralph,
Associate Director,
Applied Science Center for Archaeology,
The University Museum,
University of Pennsylvania,
33rd and Spruce Streets,
Philadelphia 4,
Pennsylvania.

Dear Miss Ralph,

Thank you very much for your letter of 10 February enquiring about our meter. I am sorry it appears to have taken such a long time to reply, but your letter came by a devious route and we only recently received it. We are most happy to hear that you have decided to recommend our instrument, and I only hope that this information will arrive in time.

I enclose a copy of the specification sheet for the latest version of the instrument, and a copy of the working instructions. The weight is $2\frac{1}{2}$ lbs. I am sorry I do not know the Eveready U.S. number for the battery; it is the type with two flat brass electrodes projecting from one end, and its dimensions are $2\frac{1}{2}$ x $2\frac{3}{8}$ x $\frac{7}{8}$ inches (approx.).

Although the instruction sheet describes the use of the traditional five-probe system, we have recently made progress with an integrated probe system which can be used very rapidly. This is shortly to be published in Instrument Review, and I will let you have an offprint of this. I was pleased to see in The Times recently that you were on your way to Greece with the rubidium magnetometer; I hope the expedition was a great success.

Yours sincerely,

Anthony Clark

Anthony Clark

April 22, 1966

Mr. Barry Matthews
21, Hawthorn Grove
Rodley, Nr. Leeds
Yorkshire, England

Dear Mr. Matthews:

Thank you for your inquiry of April 14th. However, I doubt we shall be able to help you, for several reasons. This laboratory dates samples almost exclusively for the University Museum. Unless "outside" samples fit in with a program presently under way or contemplated by the Museum, we cannot accept them.

Moreover, we concentrate almost entirely on archaeologically oriented materials, and have not done more than half a dozen "geological" samples in the past ten years.

Since all samples submitted by outside sources must be cleared by the appropriate curator of the University Museum, yours would be screened by Dr. Froelich Rainey, Director, who handles all our Arctic materials. If you like, I'll show him your letter on his return to this country in July.

At present, we are committed to a long series of samples from the Near East, and will then be covering Central and South American samples on our waiting list. We won't be "back in the Arctic" for at least a year and a half, and probably two years.

Sincerely,

Robert Stuckenrath, jr.
Radiocarbon Laboratory

21, Hawthorn Grove,
Rodley,
Nr. Leeds,
Yorkshire, England.

14th April, 1966.

Miss E.K. Ralph & Mr. Robert Stuckenrath, Jr.
Department of Physics,
University of Pennsylvania,
Philadelphia, 4.
PENNSYLVANIA.

Dear Miss Ralph and Mr. Stuckenrath,

For the past 6 years I have been studying the Late Quaternary history of the Deception Bay - Sugluk area of Northern Ungava, Arctic Quebec, Canada, for a Ph.D. thesis at McGill University, Montreal. So far Isotopes Incorporated and the National Physical Laboratory have provided 11 radiocarbon dates on marine shells from raised marine terraces and terrestrial peat. These have provided sufficient data for construction of a provisional glacio-isostatic uplift curve, an account of which is to appear in the journal Nature in the next month or so. I was wondering if your laboratory would be willing to carry out further measurements on samples of marine shell and organic material in order to improve this uplift diagram and to provide further data for construction of a chronology of the Late Quaternary events in the Hudson Strait area. (Review of field work occurs in Ice, No.12, 1963 and McGill Sub-Arctic Research Report No.12, 1962).

If so, I should be grateful if you could let me know the cost of such radiocarbon measurements; whether they could be done in less than a year hence; whether it is possible to make measurements on samples of less than 5 gms; and whether it is possible to date uncharred human and animal bone. (Bone samples were collected from an unusual ancient Eskimo archaeological site at Deception Bay, in which no artifacts were found to date the settlement).

Thanking you in anticipation of your consideration of this matter.

Yours faithfully,



BARRY MATTHEWS.

September 2, 1971

Professor Froelich Rainey
University Museum
University of Pennsylvania
Philadelphia, Pennsylvania

*ASCA
Please
reply.*

Dear Sir,

In a recent issue of Science (6 August 1971) the Museum Applied Science Center for Archeology is referred to. I would like to know a bit more about its purpose and current research, if that is possible. I would appreciate it very much if you would send me any literature available concerning the Center. Thank you very much.

Sincerely,

Kathryn R. Maurer
Kathryn R. Maurer

610 West Delaware St.

Urbana, Illinois

61801

September 7, 1971

Miss Kathryn R. Maurer
610 West Delaware Street
Urbana, Illinois 61801

Dear Miss Maurer:

Dr. Rainey has asked me to reply to your letter of September 2nd. To do so, I have enclosed a Xerox copy of our 1966 Science article and a set of available MASCA Newsletters.

If you have more questions, please do not hesitate to write.

Sincerely yours,

Elizabeth K. Ralph

EKR/mm
Enclosure

WOODS HOLE OCEANOGRAPHIC INSTITUTION

WOODS HOLE, MASSACHUSETTS 02543

AREA CODE 617-548-1400

November 8, 1966

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

Dear Dr. Rainey:

I am presently preparing a proposal covering a multidiscipline approach to the study of the Minoan eruption of Thira and its effects on the civilizations of the eastern Mediterranean. From George Bass, Harold Edgerton, and others, I have heard of your fine work in introducing new scientific methods into certain phases of archaeology. Your recent paper in "Science" was most interesting.

My proposal, which is presently circulating among oceanographic people here is historical and archaeological in its objectives but most of the technical work proposed is oceanographic in nature. As you know, a typical oceanographic project budget is large compared with that of most archaeological digs. I suggest that archaeology can be aided financially and scientifically by a multidiscipline effort.

Enclosed is an appendix to the preliminary proposal which outlines some of my thoughts relative to the work of the University Museum. The proposal presently has a budget of 300-400,000 dollars which does not include this appendix. I think the money can be found on the basis of the present widespread public interest in the Thira eruption.

I would appreciate hearing your thoughts on this matter and on any other ways in which we in oceanography can be of assistance in the furtherance of your work.

Sincerely yours,

James W. Mavor, Jr.

JWM/cam

Encl.

cc:Dr. George Bass
Miss Elizabeth K. Ralph 

Appendix I

An important contribution to the objectives of the proposed program has been the work of George Bass of the University Museum, Philadelphia, Pa. in excavating ancient shipwrecks off the coast of Turkey. He has shown that scientific submarine excavations and reconstructions can be made and that the results are extremely rewarding, archaeologically. This work should be extended to the coast of mainland Greece, Crete, and Cyprus. A survey using acoustic techniques and coring should be made over considerable areas before excavation. The location of wrecks beneath the sediment by acoustic means has been proven feasible. A few cores into the wreck will reveal enough antiquities to date the wreck. From an assortment of locations and dates, those of most interest can then be excavated. It is proposed that the University Museum be funded substantially for additional study of undersea shipwrecks.

The University Museum has also pioneered the use of scientific techniques of land search for antiquities (Rainey and Ralph 1966). The traditional procedure for selecting sites for excavation is uncertain at best. Generally, land must be purchased and abandoned by other interests before it can be excavated. Currently, this constitutes a major expense which could be substantially lessened by improved search techniques. Increased funding for this phase of archaeology appears to deserve the highest priority.

MAX-PLANCK-INSTITUT FÜR KERNPHYSIK

DIREKTOREN-KOLLEGIUM

Prof. Dr. W. Gentner
Prof. Dr. U. Schmidt-Rohr
Prof. Dr. H. A. Weidenmüller

69 HEIDELBERG i March 15, '72

Postfach 1248
Saupfercheckweg 1 (beim Bierhelder Hof)
Telefon Sammel-Nr. 5161
Durchwahl 516
Telex 461666

Dr. Elizabeth K. Ralph
Museum Applied Science Center
for Archaeology
University Museum
University of Pennsylvania
Philadelphia, Pa. 19104
U.S.A.

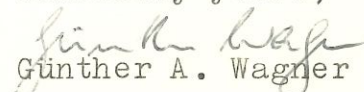
Dear Beth,

The "StiftungsVolkswagenwerk", a German research foundation, considers to build up a laboratory for archaeometry in Germany, probably here in Heidelberg. It is planned to apply scientific methods, as dating, isotope studies, and chemical tests, to archaeological materials. In this field there is not much done in Germany.

The "Stiftung Volkswagenwerk" approached me to review the existing dating methods for archaeological materials and to prepare a proposal which methods are feasible for the planned laboratory.

It would be extremely helpful to discuss this project with you and your co-workers in Philadelphia. I am sure you are just the right people to contact in this matter. I will attend a meeting in Las Vegas between June 17 and 23. If convenient to you this would be a good opportunity to come for some days before or after the meeting to Philadelphia and visit you.

Sincerely yours,


Günther A. Wagner

cc - Dr. H. Faul

Prof. W. Gentner

March 17, 1972

Dr. Günther A. Wagner
Max-Planck-Institut für Kernphysik
Postfach 1248, Saupfercheckweg
69 Heidelberg I
West Germany

Dear Günther:

That is good news that you are coming this way, but, unfortunately, in June, I shall probably be on a field trip abroad with our magnetometers. However, Mark Han can tell you about thermoluminescence and Barbara Lawn, about carbon-14 dating. Bruce Bevan, who does our aerial photographic work, will probably be away too.

Our book, Dating Techniques for the Archaeologist, may be of some help to you. If you did not receive a copy, let me know and I shall send you one. It is advertised in the enclosed MASCA Newsletter.

Dr. Irwin Scollar (Rheinisches Landesmuseum, Colmanstrasse 16, Bonn 53) uses magnetometers and aerial photographic techniques, and possibly others in his laboratory. You might like to get in touch with him.

With best regards,

Elizabeth K. Ralph

EKR/mm
Enclosure

In application for employment by MASCA:

John Mayes

222-5761

607 S. 42nd St.

Philadelphia

Not having a transcript available, I shall briefly summarize my post-high school education. I received a B.A. from Bowdoin College in 1972, having majors in English and biology. In science, I had two courses in physics, two in math, three in chemistry, and seven in biology. The remaining studies included sixteen courses in literature and language, one in astronomy, and an independent study in the Art Department on a site in New Hampshire known commercially as Mystery Hill.

The summer following graduation, I participated in the excavation of a medieval church in southern France, under the direction of Brooks Stoddard, who is now at Colgate.

I was accepted by Penn Dental School, but decided not to attend. My present intentions are to study oral anatomy in the paleo-anthropological context, with a broad training in archaeology and physical anthropology.

There is only one reservation I have in applying for employment. I am marrying on the fifth of January, and shall not be able to work from the twenty-eighth of December to the seventh of January. Aside from that, there are no conflicts in schedule.

Start 4/12/73

References:

Tom West 717-286-7956

234½ Sixth St.

Sunbury, Pa. 17801

Charles Lemay 603-669-6446

446 Bartlett St.

Manchester, New Hampshire

Willie Hills 617-394-9546

1864 Massachussetts Ave.

Cambridge, Mass. 02140

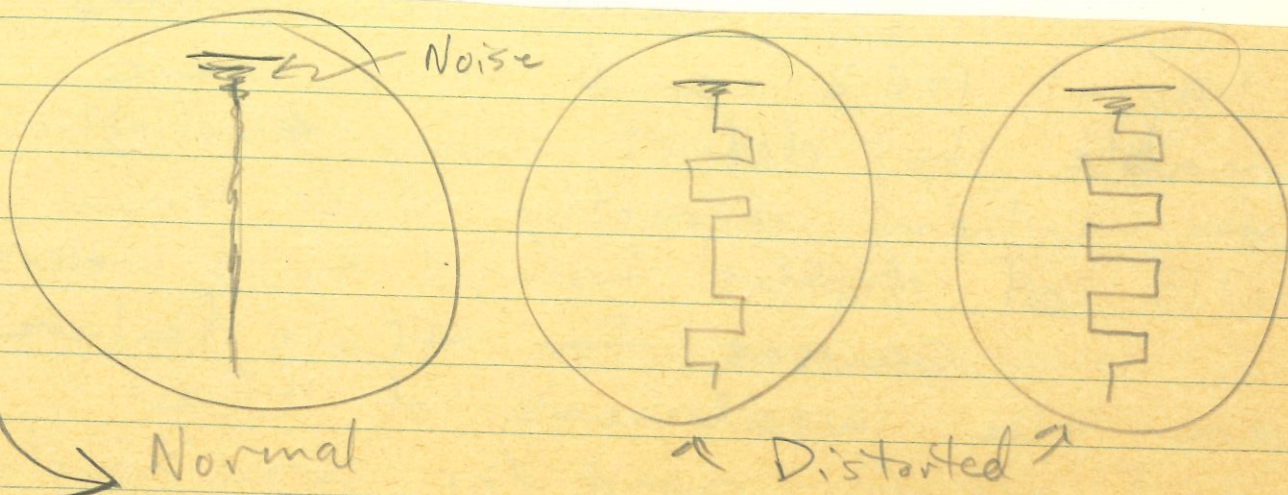
October 12, 1962

Mr. W. Harry Mayne
Petty Laboratories Inc.
P. O. Drawer 2061
San Antonio 6, Texas

Dear Mr. Mayne:

Dr. Rainey has asked me to reply to your letter of October 4, 1962 concerning the MacLaughlin Sonic Device.

A
no # I have enclosed a block diagram and brief description of the operation of this prototype unit. Dr. Rainey and I conducted the initial tests of this instrument at Sybaris in April 1962 and we were unable to detect any reflections even when directly over known walls at depths from 1 to 5 meters. The causes for this failure were the weakness of the initial signal and/or poor coupling to the ground. The latter was supposed to be accomplished through conical aluminum spikes, tapered to a point from diameter of approximately $3/4$ inches. These were of various lengths up to 18 inches and we used the longest ones (one for transducer and similar one for geophone) that could be forced conveniently into the ground. For normal ground conditions this was about nine inches. When the coupling was bad such as with a short spike in a recently plowed field, the usual straight trace of the oscilloscope appeared distorted as shown below:



of this instrument at Sybaris
in April 1962 and we were
unable to detect any reflections
even when directly over known
walls at depths from 1 to 5 meters.
The causes for this failure
were the weakness of the
initial signal and/or poor coupling

Mr. W. Harry Mayne

October 12, 1962
Page 2

In these experiments the transducer and geophone were placed as close together as possible (spikes about 3 in. apart) with the hope that the signal would be transmitted primarily downward and that a reflection would return vertically upward.

In summary, the electronic unit functioned well and I think it could be adapted for use with other more powerful impulse sources. One special feature incorporated in the oscilloscope is a "long persistence" screen, which should assist in the intensification of weak reflected signals.

If I have neglected to include some specific information which you would like to have, please don't hesitate to let me know. I am having copies made of a few pictures which we have of this prototype and will forward them as soon as available.

Perhaps, you have some ideas for a better
transducer which could be used with this detector.
Sincerely yours,

Elizabeth K. Ralph

EKR:dml

October 3, 1974

Dr. J. L. McAtee
Department of Chemistry
Baylor University
Waco, Texas 76703

Dear Dr. McAtee:

Mr. Rainey asked me to send you some information about TL equipment. I have included a budget that we made up more than a year ago, but it would be best to visit an active lab to see how it is done. If you prefer to start with equipment that is already assembled, the Oxford-Littlemore apparatus seems to be the best.

Copies of two articles are also enclosed.

Sincerely yours,

Elizabeth K. Ralph

EKR/jbq

February 21st, 1975

Dr. James L. McAtee, Jr.
Department of Chemistry
Baylor University
Waco, Texas 76703

Dear Dr. McAtee,

For your visit to our MASCA laboratories, March 14th will be fine.

The most convenient place to stay is in the new University Hilton which is directly behind the Museum. If you arrive here before 10.00 ~~am~~. ask for directions to the Kress Door, which will be the only one open.

Sincerely yours,

Elizabeth K. Ralph



BAYLOR UNIVERSITY

DEPARTMENT OF CHEMISTRY

Waco, Texas 76703 • (817) 755-3311

March 17, 1975

Dr. Elizabeth K. Ralph
Museum of Applied Science Center
of Archaeology
The University Museum
F 1, University of Pennsylvania
33rd and Spruce Streets
Philadelphia, Pennsylvania 19174

Dear Dr. Ralph:

Dr. Healan and I certainly enjoyed our visit with you and the others last Friday. The time that you were willing to spend with us was extremely hospitable and I feel that we obtained a great deal of information that I do not know how we could have otherwise have ever found out. Thank you also for the lunch, and I do hope that our laboratory will proceed to the point where we will be working with you in the near future.

Sincerely yours,

Jame L. McAtee, Jr.

Dr. Jame L. McAtee, Jr.

JLM:nd

November 14, 1968

Mr. Bill McCall
Philadelphia Blue Print Co.
725 Chestnut Street
Philadelphia, Pennsylvania

Dear Mr. McCall:

Please make negatives of the two tracings of maps of Elis, reduced to 1/4 of their original size. Then, make 10 blueline prints of each, same size as the negatives.

The University of Pennsylvania purchase order number is 93676.

Please call me when these are ready and if you have any questions.

Sincerely yours,

Elizabeth K. Ralph

EKR/mrb
Mornings, etc. 594-8168
Part of afternoons EV 6-7400

August 17, 1971

Miss Anna Marguerite McCann
American Academy in Rome
Via Angelo Masina, 5
Porta S. Pancrazio
00153 Rome, Italy

Dear Anna Marguerite,

It is possible that "coring" or just plain drilling in your inner harbor might be of some use. The Lerici Foundation has the necessary equipment if you want them to do it for you. Otherwise, you can rent or buy a drill. The last one which we used was far superior to our previous ones. It is made by Mobile, model B-30 (Mobile Drilling Co., 3807 Madison Avenue, Indianapolis, Indiana 46227) and can be rented in Italy.

I shall be leaving for England right after Labor Day, but hope to see you sometime soon.

With best regards,

Elizabeth K. Ralph

February 14th, 1973

Miss Joanna McClellan
13305 Edinburgh Lane
Laurel, Maryland 20810

Dear Miss McClellan:

About your samples of iron from Gordion, I think that Dr. Maddin will be interested in them.

Unfortunately, I have not been able to reach Dr. Maddin today, and I am leaving for Egypt tonight. Therefore, I am forwarding your letter to him, and I suggest that after a few days, you contact him directly.

If you want to telephone, his number is 215-594-4931.

Sincerely yours,

Elizabeth K. Ralph

May 6, 1977

Dr. Elizabeth K. Ralph
Box 357
Woosamonsa Rd.
Pennington, New Jersey 08534

Dear Beth:

Under separate cover I am sending you two small samples of a pumice-lime pozzolanic mix that I made from the pumice that you gave me. They were mixed with water on April 27 and achieved a waterproof set in about a week to ten days, which is no problem in a vertical wall where rain erosion is normally no problem for some months. Occasional sprinkling accelerates set as will the addition of a small amount of Portland cement.

The white formula in the small cup consisted of 20% hydrated lime which is locally made in many primitive areas by burning limestone, and 80% of pumice. I kept it damp until it set.

The formula in the larger container consisted of a third each of lime, pumice and a fine earth to darken the color. As you can see, the earth increased the shrinkage cracking so it is advisable to tint with a very small amount (usually less than 1/2%) of commercial cement color or fine colored sand.

It is best to screen the pumice over a #10 US Standard Screen to remove the coarse particles to improve workability. Some pumice materials are not pozzolanic and should be checked by trial mixes as above, to determine time of set against softening by water. The speed of this action is highly variable with different sources of pumice.

A little note on the Antabuse: While pouring some denatured ethyl alcohol from one container to another, I spilled some on the back of my hand and on my knee. Although it quickly evaporated, within ten minutes I had a headache and the pulse went to 120, a truly mild reaction which lasted only 15 minutes - but it still demonstrated the potency of this drug.

During my after-care meeting, I visited the Cunningham Wing, and the only old-timers I saw were Harry and the gal whose lunch was eaten by the old man. Frank, one of the volunteer drivers, was back in as a patient, but not because of a "slip". He said it was because of a mild depression and confusion.

Mary Jane and I are attending the Sunday evening AA and Alinon meetings in the auditorium.

Am feeling fine without the slightest desire to drink, and am keeping my fingers crossed. Hope you are the same.

Best regards to a fellow alcoholic -

(My name is Charlie and I'm an alcoholic.)

Sincerely,



Charles H. McDonald
3134 W. Pierce
Phoenix, AZ 85009

CHMcD:mj

Hi, Beth - it's good to be saying "hello" to you again! Also, I want to thank you again for the lovely hangers. When we ate dinner on the patio last Sunday evening, we missed the rest of the "gang" - but all of you were in our thoughts!



May 24, 1977

Mr. Charles H. McDonald
3134 W. Pierce''
Phoenix, Arizona 85009

Dear Charley;

Many thanks for your letter and for the samples of pumice. I am wondering if they were in the form of bricks when you mailed them because now they have gone back to powdery pumice. Perhaps, I am supposed to consolidate them with water. If so, please let me know.

I plan to show the samples and your procedure to our mud-brick specialist when he returns from Japan.

I still think that Antabuse is dangerous, and I am glad that you did not have a more serious reaction.

I wish that I were close enough to join you and Mary Jane on the Cunningham patio. I haven't laughed so hard ~~as~~ we did over the "South Asian" Army for many years, not enjoyed such good company.

With best regards to you and Mary Jane,

Elizabeth K. Ralph

June 6, 1977

Dr. Elizabeth K. Ralph
Associate Director
Museum Applied Science Center
for Archaeology
University of Pennsylvania
33rd & Spruce Streets
Philadelphia, PA 19104

Dear Beth:

For a while I was puzzled that the samples of pumice and lime had turned back to powder when you received them. Aside from physical damage it had to be something chemical. In reviewing the matter in my mind, it occurred to me that they were packaged in an aluminum or magnesium container, which are subject to attack by the alkali in the lime and the resulting chemicals are highly expansive and disruptive to all alkaline cementitious materials.

In any event, I am enclosing a dry mixture of pumice with 25% lime by weight of the pumice so that you can put it into a glass container and add enough water to make a stiff paste. Keep it damp for a week or two and then let it dry out. Then submerge it in water and you will find that it no longer softens under water. This is what is required for a mortar to keep it from disintegrating under the action of rain. It does not have to have much initial strength. Pozzolanic materials gain strength very slowly over the years. This material is the same that the Spaniards used in Mexico and Guatemala in building their churches and aqueducts and that the Romans used in their masonry construction. Don't expect too high an initial strength.

I was surprised to hear that you had risked a few social drinks. Before going to the hospital I tried this a number of times, and I bet that you have too, only to find that it eventually led back to the old pattern. Remember, those hospitals are fun -- but expensive!

I looked on the board at St. Luke's the other day and found that they are only having two swimming sessions a month. They need you to come back and jack them up.

I am dictating this to M.J. and she wants to join me in sending you our best regards and to tell you that we were also reminiscing not long ago about the merry times we had on the Cunningham patio. Had you heard that Old Jack, with the one eye, was kicked out for drinking wine during a lecture? M.J. and I have seen Sarah several times at Phillips Auditorium,

and compact it in your hand to a ball

and she seems to be doing very well and is going with Les, instead of that David who was such a bad influence on her. She also has a job, I believe in a dental lab in North Phoenix. I called my old roommate, Chuck, at his office the other day. He was out then, but his secretary, Angie, said that he was doing first rate and had no desire whatsoever to drink, and that they are rebuilding the business.

Keep us advised of your activities, and do not hesitate to ask any questions that may occur to you about the pumice and lime combination.

Sincerely,

A handwritten signature in cursive script, appearing to read "Charles H. McDonald".

Charles H. McDonald

CHMcD:mj

August 4, 1977

602-242-3541

Dr. Elizabeth K. Ralph
Box 357
Woosamonsa Rd.
Pennington, NJ 08534

Dear Beth:

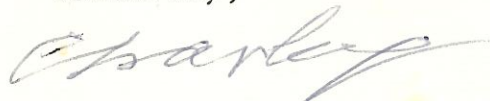
I have been wondering if you received the sample of lime and pumice that I enclosed with my letter to you of June 6th and what luck you have had with it. I kept a companion sample which I molded into a ball, and it is in good shape.

Mary Jane and I go every Sunday to the talks at Phillips Auditorium and renew our contacts with the staff. I have had no desire to drink so far and have only dreamed of being drunk once, which wasn't a very pleasant experience - so I am convinced my "Higher Power" is working on me, for which I am grateful. I hear that Bill (the big fellow with the black mustache and approximately in his 30's) slipped bad a couple of times, but is now working in Oklahoma and doing o.k. Sarah is also doing well according to the last I heard, as is Art also.

I am enclosing a copy of some reminiscences of my stay in the hospital, which you may find interesting. They were dictated to M.J., who contributed in putting it in final form. The names are fictitious, but I am sure that you will recognize the people from the context.

Hope you are well and will drop us a line.

Sincerely,



Charles H. McDonald

CHMcD:mj

Hi, Beth! - Of course I want to add my hello and best wishes. On Sunday evenings we have to eat inside now, for it is too hot on the patio with temperatures up to 110° sometime. We think of our "little flock" very often and enjoy the happy memories.

With love,



It was interesting to note how our little therapy group was able to forecast fairly accurate judgments on various individuals on whether they would return to drinking after "graduation" from the course. For example, we were almost unanimous in forecasting that Zeke would return to drinking almost as soon as he left the hospital. He beat us to the punch, however. In his final days he was caught drinking wine at one of the lectures, and consequently was dropped from the course.

One of the features of this treatment is that after the in-patient period of 28 days, there is an out-patient group therapy that is included in the cost of the treatment, which extends for one year. This consists of a group therapy meeting once a week with trained voluntary therapists. Enrollment is voluntary, but you have already paid for it, whether you take it or not. I have found this to be a very interesting and helpful addition in maintaining the psychological guard against slipping from sobriety, as in these sessions we each remind one another of the bad old days of our drinking. Personal, and other, problems are discussed with the emphasis being on their possible effect on the person's sobriety.

In conclusion I will say that I have been "dry" for approximately two months now and without any thought or desire to drink. Perhaps this is partially because in the back of my mind I know that if I should take a drink, I will promptly be dealt a crushing blow from the effects of the Antabuse. There is nothing like the threat of a beating to help one follow the path of virtue.

.

CHMcD:mjb
6/1/77

March 8, 1972

Dr. M.W. McElhinny
Dept. of Geophysics and Geochemistry
Australian National University
Canberra A.C.T.
Australia

Dear Dr. McElhinny:

On a television program entitled "The Restless Earth," we heard about yours and Dr. Barbetti's measurements of magnetic pole reversals in Australia that occurred within the past 30,000 years.

I have read your two articles in the Geophysical Journal of the Royal Astronomical Society (1968 and 1970), but I have not been able to find any more recent publications in our libraries. May I trouble you to send me a reprint or other information about these events that have associated C-14 dates?

Sincerely yours,

Elizabeth K. Ralph

EKR/mm

UNIVERSITY OF PENNSYLVANIA PLACEMENT SERVICE

One University City, 4025 Chestnut Street T-7
Philadelphia, Pennsylvania 19174



RECORD OF CURRENT YEAR

Type all information.

Omit all information revealing race, religion, age, sex, and national origin.

Name in full Patrick Edward McGovern
(Include maiden name if married)

Date January 17, 1977

Permanent address 4046 Chestnut St.; Philadelphia, Pa. 19104
(Street & No., City, State, Zip Code)

Telephone No. 215-387-2131
(Area Code)

Present address same
(Street & No., City, State, Zip Code)

Telephone No. _____
(Area Code)

This address valid until _____

Present Position (To be omitted by full-time students and student teachers)

Title or rank _____

Name of College, School District, or Organization _____ Date Started _____

Location: City, State, Zip Code _____

Description of professional duties or subjects and titles of courses taught. _____

Extra-curricular duties _____

Number of years teaching experience (including present year) _____ Admin. experience (including present year) _____

DEGREES AND CERTIFICATES

Degree received during 1975-76 _____ Degree expected in 1976-77 Ph.D.

Expected when? (Month, Year) December, 1977

List specific professional certificates held: State, certificate title, and date of certification _____

UNIVERSITY OF PENNSYLVANIA PLACEMENT SERVICE

Name in Full Patrick Edward McGovern

Date January 17, 1977

1. Undergraduate, and graduate institutions attended in chronological order beginning with the earliest. Include private, foreign, summer, business, technical, and professional study. Include present semester.

| Institution | Location City State | Between what years | Specify degree or diploma obtained | Major subject |
|--|------------------------|-----------------------|---|--|
| <i>(Type single space)</i> | | | | |
| Cornell University | Ithaca, NY. | 1962-66 | A.B. | Chemistry (Minor- English) |
| Faith Theological Seminary (faculty now at Biblical School of Theology, Hat- field, Pennsylvania) | Elkins Park, Pa. | 1966-71 | M.Div. | Biblical Studies |
| University of Rochester | Rochester, NY | 1967-68 | - | Brain Research |
| University of Pennsylvania | Phila., Pa. | 1969- present | Courses and Finals completed for Ph.D. | Archaeology and Literature of Syro- Palestine and the ancient Near East |
| Hebrew University | Jerusalem, Israel | 1976-77 | - | Archaeology |

2. Undergraduate Course Units. Record credits or units as they appear on your college transcript. Undergraduate record may be omitted by persons holding doctor's degree. Semester hours shown

| Subjects | Under-grad Units | Subjects | Under-grad Units | Subjects | Under-grad Units | Subjects | Under-grad Units | Subjects | Under-grad Units |
|-----------------|------------------|-------------------|------------------|------------------|------------------|------------------|------------------|-------------------|------------------|
| Reading | | Classcl. St. | | Regional Sci. | | Business Ed. | | Physics | 8 |
| Education | | Linguistics | | Accounting | | Art | | Mathematics | 9 |
| Psychology | 3 | Orient. Stud. | | Business Law | | Art Hist. | | Astronomy | |
| American Civ. | | Black Stud. | | Intern. Bus. | | Music | | Geology | |
| Folklore | | So. Asn. St. | | Transportation | | Voc.Ed.,Ind.Arts | | Civil Engineer. | |
| English | 20 | Philosophy | | Finance | | Physical Ed. | | Chemical Eng'r. | |
| Communctns. | | Religion | | Bus. Orgn., Mtg. | | Biology | | Electrical Eng'r. | |
| Speech, Theatre | | Anthropology | | Eco. Hist. | | Botany | | Mech. Engineering | |
| Compar. Lit. | | Sociology | 3 | Labor, Ind. Rel. | | Zoology | 6 | Metallurgy | |
| French | | Political Science | | Insurance | | Microbiology | | Eng'ng. Mech. | |
| Spanish | | Intern. Rel. | | Marketing | | Anatomy | 6 | Computer Sci. | |
| Italian | | History | 6 | Statistics | 3 | Physiology | 4 | Genetics | 4 |
| German | 12 | Economics | 3 | Data Process. | | Biochem. | 6 | | |
| Slav. Lang. | | Geography | | Operations Res. | | Chemistry | 38 | | |

3. Graduate Course Units. List total number of units taken in each department at this and other universities including summer sessions. Do not list course titles. Include present semester. c.u.= course unit(s); hr.= semester hour

| Institution | Academic Department | Graduate Units | Institution | Academic Department | Graduate Units |
|----------------------------|---------------------|----------------|----------------|---------------------|----------------|
| <i>(Type single space)</i> | | | | | |
| University of Pa. | Oriental St. | 18 c.u. | Faith Seminary | Old Testament | 55 hrs. |
| | Relig. Stud. | 7 c.u. | | New Testament | 28 hrs. |
| | Anthropology | 3 c.u. | | Syst. Theology | 16 hrs. |
| University of Roch. | Medicine | 6 hrs. | | Pract. Theology | 16 hrs. |
| | Biophysics | 4 hrs. | | Church History | 11 hrs. |
| | Brain Research | 4 hrs. | | | |

Note to administrator: Course units have been listed by the candidate and not verified by the Placement Service. Verification should be obtained from official institutional transcripts.

UNIVERSITY OF PENNSYLVANIA PLACEMENT SERVICE

Name in Full Patrick Edward McGovernDate January 17, 1977

4. Courses

List *undergraduate* courses taken *for credit* in major or teaching fields. Include courses taken during present semester. At the candidate's discretion, persons holding the doctor's degree may omit the list of undergraduate courses.

Undergraduate Course Catalogue Titles

(Omit catalogue numbers. Type single space)

| | |
|--|---------------------------------|
| Elementary Organic Chemistry | 95, 90 |
| Elementary Organic Lab | A ⁺ |
| Advanced Organic Chemistry | B |
| Principles of Biochemistry | 92 |
| General Chemistry and Inorganic Qualitative Analysis | 75, 80 |
| Quantitative Analysis | 75 |
| Advanced Inorganic Chemistry | A |
| Physical Chemistry | C ⁺ , B ⁺ |
| Introduction to Zoology | 85, 80 |
| Comparative Anatomy | 80, 80 |
| Comparative Physiology | 85, 75 |
| Genetics | 83 |
| Calculus | 90, 75, 95 |
| Statistics | 92 |
| Introduction to English | 80, 75 |
| British Literature | 85, 85 |
| Major American Writers | A ⁻ |
| Shakespeare | B |
| Intermediate German Composition and Conversation | 80 |
| Masterpieces of German Literature | 75, 80 |

List all *graduate* courses taken *for credit* including the present semester. Group them under the heading of each university attended. Name the professor in parentheses beside each course. c.u. = course unit

Graduate Course Catalogue Titles

(Omit catalogue numbers. Type single space)

Faith Theological Seminary

| | |
|---|-------------|
| Beginning Hebrew (Harding) | 95, 90 |
| Hebrew Reading (Taylor) | 90, 90 |
| Graduate Hebrew (MacRae) | 95 |
| Old Testament History (Taylor) | 90, 90 |
| OT Historiography (Vannoy) | 95 |
| OT Introduction (MacRae) | 95 |
| OT Seminar (Vannoy) | 95, 95 |
| Pentateuch (MacRae) | 95 |
| Poets (Harding) | 95, 95 |
| Prophets (Taylor) | 90, 90 |
| Joshua-Judges (Cohen) | 95 |
| Leviticus (Taylor) | 90 |
| Messianic Psalms (Harding) | 90 |
| Ecclesiastes (Taylor) | 90 |
| Isaiah (MacRae) | 95 |
| Daniel (Cohen) | 95 |
| Zechariah (Taylor) | 95 |
| Advanced Greek (Eppard) | 90 |
| New Testament Survey (Vannoy) | 95 |
| NT Introduction (Eppard) | 95 |
| Recent NT Studies (Eppard) | 95 |
| NT Interpretation (Eppard) | 95 |
| NT Exegesis (Cohen) | 90 |
| Gospel History (Eppard) | 95, 95 |
| Apostolic History (Eppard) | 95, 95 |
| Exegesis of Gospels (Cohen) | 95 |
| Gospel of John (Cohen) | 95 |
| Pastoral Epistles (Eppard) | 95 |
| Hebrews (Taylor) | 95 |
| Systematic Theology (Dunzweiler) | 95 (4 c.u.) |
| Holy Spirit (Dunzweiler) | 95 |
| Apologetics (Dunzweiler) | 90, 95 |
| Evolution (Dunzweiler) | 95 |
| Church History (MacRae) | 95 (4 c.u.) |
| Ecumenism (Hedegard) | 95 |
| Modern Relig. Probs. (Taylor) | 85 |
| Communism (Cohen) | 95 |
| Missions (Cohen) | 95 |
| Pastoral Theology and Homiletics (several profs.) | 95 (4 c.u.) |
| | 85 (6 c.u.) |
| | 90 (2 c.u.) |

Note to administrator: Courses have been listed by the candidate and not verified by the University Placement Service. Verification should be obtained from official institutional transcripts.

University of Pennsylvania

Please note that my Penn transcript is limited to twenty courses in fulfillment of the minimum requirement for the Ph.D. Additional courses, as required and recommended by the Oriental Studies department, are also listed below. Grades were sometimes not received for the latter, although all course requirements were met. In the case of courses which were audited, I only attended lectures and did the prescribed readings. Such a course listing cannot indicate the considerable amount of independent study that I engaged in outside the formal program, e.g. Akkadian with the advice of Drs. Eichler and MacRae, Arabic by making use of Dr. Allen's audio-visual tape series, and wide reading in most areas of Near Eastern archaeology and history, both ancient and modern.

| <u>Course Title</u> | <u>Grade</u> | <u>Course Unit(s)</u> |
|---|----------------|-----------------------|
| Introduction to Ancient Near Eastern History and Archaeology- | | |
| Bronze Age (Muhly) | A | 1 |
| Iron Age (Leichty) | A | 1 |
| Seminar on Biblical Archaeology (Pritchard) | | |
| Archaeology of Lebanon and Syria | B | 1 |
| Palestinian Pottery | B | 1 |
| Palestinian Archaeology- Bronze Age | A | 1 |
| Iron Age | Audit | 1 |
| Late Bronze Jewelry at Beth Shan (Pritchard and James) | A | 1 |
| Palestinian Archaeology (Pritchard) | A | 1 |
| Introduction to Egyptian Culture and Archaeology (O'Connor) | A | 1 |
| History of Egypt (Weinstein) | B | 1 |
| Seminar on Egyptian Foreign Relations (O'Connor) | A | 1 |
| Egyptian Archaeology (O'Connor) | A | 1 |
| History of Anatolia in the Bronze and Iron Ages (Muhly) | Audit | 2 |
| Introduction to Old World Archaeology (Wailles) | B ⁺ | 1 |
| Fundamentals of Archaeology (Wailles) | B ⁺ | 1 |
| History of Israel in Antiquity (Tigay) | | |
| Early Biblical Tradition up to the Conquest | Audit | 1 |
| Periods of the Judges and the Monarchy | Audit | 1 |
| Post-exilic Period up to 130 A.D. | B ⁺ | 1 |

University of Pennsylvania- continued

| <u>Course Title</u> | <u>Grade</u> | <u>Course Unit(s)</u> |
|---|--------------|-----------------------|
| Early Hebrew Law (Eichler) | A | 1 |
| Books of the Bible (Tigay) | | |
| Chronicles | B+ | 1 |
| Job | - | 1 |
| Psalms | - | 1 |
| Biblical Texts and Versions (Tigay) | Audit | 1 |
| Northwest Semitic (Rin) | | |
| Ugaritic | - | 1 |
| Phoenician | A | 1 |
| Anthropological Study of Religion (Spooner) | Audit | 1 |
| Seminar on the Methodology of the History of Religions (Harvey) | Audit | 1 |

University of Rochester

| | | |
|--|----|--------|
| Quantum Biophysics (Feinman) | B+ | 4 hrs. |
| Neural Sciences (profs. from medical sciences) | B | 6 hrs. |
| Neurochemistry Research (Abood) | P | 4 hrs. |

UNIVERSITY OF PENNSYLVANIA PLACEMENT SERVICE

Name in Full Patrick Edward McGovern
Please type all information

Date January 17, 1977

5. Master's Thesis: Title or subject none required

Doctor's Dissertation: Title or subject Amuletic and Ornamental Jewelry Pendants from
Late Bronze Age Palestine

Indicate the date when you passed or expect to take examinations for the doctorate.

Passed April 25, 1976

Will take exams _____

Note dates when language reading examinations were passed. German- Jan. 29, 1974; French- Apr. 12, 1974

6. Publications submitted or published: A detailed study of the jewelry from levels VII and
(If space is inadequate, list on separate sheet.)

VIII at Beth Shan is scheduled to appear in Dr. Frances James' Late Bronze
Age volume on Beth Shan. It should also be noted that I researched and
helped edit articles and books as a research assistant for Dr. Allan A.
MacRae.

7. Teaching Competencies: I have taught several classes in biblical studies, given
numerous lectures and sermons, and instructed students in archaeological
methodology and history during excavations.

8. Research Interests: Biblical studies, Bronze Age and Iron Age Syro-Palestinian
archaeology and literature, field archaeology, comparative religions and
the anthropology of religion, ancient Near Eastern archaeology and history

9. Memberships in professional and learned societies: American Schools of Oriental Research,
Archaeological Institute of America, British School of Archaeology in
Jerusalem, Israel Exploration Society, Society of Biblical Literature,
American Oriental Society

10. Scholastic Distinctions: Competitive scholarships, grants, fellowships, prizes, awards, other honors:

W. F. Albright Fellowship of the American Schools of Oriental Research, 1976-77

Pennsylvania-Hebrew University Exchange Fellowship, 1976-77

University of Pennsylvania Scholarship, 1969-71, 1975-77

Ford Foundation Grant, 1974

New York State Medical Regents Scholarship, 1971

United States Public Health Fellowship, 1967-68

New York State Regents Scholarship, 1962-66; Rochester Prize Scholarship, 1962

11. Foreign Languages Spoken: see page 4a Read: _____

Residence, travel and study abroad: see page 4a

(Indicate years)

12. Summer or part-time employment: Types of positions held: see page 4a

11. Foreign Languages:

German- excellent reading, speaking, and writing knowledge
French and modern Hebrew- good reading, speaking, and writing knowledge
Classical Hebrew- excellent reading knowledge
Phoenician, Ugaritic, Classical Greek, and Latin- fair reading knowledge
Akkadian, Egyptian Hieroglyphics, Aramaic, Arabic, Russian, and several other Germanic and Romance languages- rudimentary reading knowledge, some speaking ability for the modern languages

Residence, travel, and study abroad:

Europe and Middle East- dissertation research carried out in major museums and universities, 1976-77

Lebanon, Egypt, Turkey, and Greece- academically oriented tour of museums and excavations, 1974

Europe and Middle East- academically oriented tour of principal museums and excavations, as well as a six-month Hebrew ulpan in Israel, 1971-73

United States- primarily oriented to museums and historical sites, 1973

Europe- cycling tour and stay with Bavarian farming family, 1961

12. Summer or part-time employment:

Library work- University of Rochester medical library, 1962
General Dynamics (Rochester, N.Y.) technical library, 1964
Cornell University engineering library, 1965

Postal clerk-carrier- Rochester, N.Y., 1965
Pittsford, N.Y., 1966 and 1967

Scientific work- University of Rochester cyclotron, 1963

UNIVERSITY OF PENNSYLVANIA PLACEMENT SERVICE

Name in Full Patrick Edward McGovernDate January 17, 1977

Professional Experience

List chronologically, beginning with first position. Include practice teaching and internships, teaching fellowships, military service, business positions, as well as regular school and college teaching and administrative appointments. Describe the nature and content of each position using as many lines as may be necessary for each one. Please type all information.

| Dates | Full Name of College, School District and School, or Firm | Location City State | Title, Rank, Subjects and Courses Taught, Administrative or Extra-curricular Duties |
|---------|--|----------------------------------|---|
| 1967-71 | Faith Theological Seminary | Elkins Park, Pa. | Research assistant for Dr. Allan A. MacRae, now President of Biblical School of Theology. Research and editing of encyclopedia and periodical articles, books, and lectures, as well as translation of significant books and articles from German |
| 1968 | Edward R. Johnstone Research Institute | Bordentown, N.J. | Chaplain- sermons and consultations with retarded children |
| 1972 | Jerusalem Excavations Israel Exploration Society and Hebrew University | Jerusalem, Israel | Field supervisor- recorded and studied architectural elements, instructed students, directed area excavations |
| 1972-73 | European Exchange System | Munich and Oberammergau, Germany | Assistant manager and stock-keeper of cafeteria- ordering and stocking food, payroll calculations and inventory, and over-all supervision |
| 1974 | University Museum University of Pa. Excavations at Sarafand, Lebanon | Philadelphia, Pa. | Pottery supervisor- analysis and recording of pottery from first extensively excavated homeland Phoenician site under supervision of Dr. James B. Pritchard, drawing of plans and sections, and supervision of workers |
| 1975-77 | University Museum University of Pa. | Philadelphia, Pa. | Research assistant for Dr. Frances James, making a detailed study of the jewelry of levels VII and VIII at Beth Shan |
| 1977 | American Schools of Oriental Research | Cambridge, Mass. | Co-director of Late Bronze Age salvage excavation near Amman, Jordan |

A supplementary statement helpful to prospective employers concerning your experience, professional interests or qualifications may be added.

4046 Chestnut Street
Philadelphia, Pa. 19104
May 22, 1977

MASCA
University Museum
Philadelphia, Pa. 19104

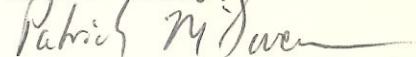
Dear Dr. Ralph:

As I indicated in our phone conversation on Friday, I am interested in any position that might come open in MASCA this year. I have enclosed my dossier, which outlines my scientific background in Chemistry at Cornell and the University of Rochester as well as subsequent training in Near Eastern history and archaeology at the University of Pennsylvania. I am presently completing my doctoral dissertation under Dr. Pritchard in the Oriental Studies Department. The dossier should be sufficient to show how extensive my preparation in Near Eastern archaeology has been. Coupled with my training in science, I am confident that I could fit into and make a real contribution to any of the on-going programs of MASCA.

I will be in the Middle East during the next three months, but, should a position open up, please write me at the above address. Your letter will be forwarded, and I would attempt to respond as soon as possible. On my return to Penn in August or September, I will contact you again.

Thank you for your consideration.

Yours truly,



Patrick McGovern

P.S. You can also contact my wife, Doris, on University extension 7502. References and transcripts can be supplied as needed.

*Recommended by Dr. Pritchard
6/29/77*

CORNELL UNIVERSITY
ITHACA, NEW YORK

CORNELL DEGREE:

McGovern Patrick Edward 79612
SURNAME FIRST NAME SECOND NAME NUMBER

A.B. 6/13/1966

HOME ADDRESS 21 Highview Trail, Pittsford, N. Y.
NAME OF PARENT OR GUARDIAN Edward McGovern

ADDRESS SAME

BIRTH DATE 12/9/44

BIRTH PLACE Corpus Christi, Tex

ADMITTED FROM Pittsford, N. Y.

FIRST REGISTRATION 9/62

| DESCRIPTIVE TITLE | DEPT. | COURSE NUMBER | SEM. NBR. | GRADE | DESCRIPTIVE TITLE | DEPT. | COURSE NUMBER | SEM. NBR. | GRADE |
|--|-------|---------------|-----------|-------|-------------------------|-------|---------------|-----------|-------|
| ADVANCED STRAINING CREDIT OF 3 SEMESTER HOURS BY EXAMINATION. (1575) | | | | | FALL 64 ARTS | | | | |
| FALL 62 ARTS | | | | | 79612 | | | | |
| GEN CHEM INORG QUAL AN | CHEM | 113 | 4 | 75 | BRITISH LITERATURE | ENGL | 255 | 3 | 85 |
| INTRO TO ENGLISH | ENGL | 111 | 3 | 80 | COMP ANAT VERTEBRATES | ZOOL | 321 | 3 | 80 |
| CALCULUS | MATH | 111 | 3 | 90 | COMP PHYSIOLOGY LEC | ZOOL | 441 | 3 | 85 |
| INTRMED COMP & CONVERS | GERM | 204 | 3 | 80 | COMP PHYSIOLOGY LAB | ZOOL | 443 | 1 | 75 |
| INTRODUCTORY ZOOLOGY | ZOOL | 101 | 3 | 85 | PRINCIPLES BIOCHEM LEC | BIOCH | 400 | 4 | 92 |
| PHYSICAL EDUCATION MEN | P ED | MEN | 1 | P | STATISTICS I | ICLR | 210 | 3 | 92 |
| SPRING 63 ARTS | | | | | SPRING 65 ARTS | | | | |
| 79612 | | | | | 79612 | | | | |
| GEN CHEM INORG QUAL AN | CHEM | 114 | 4 | 80 | BRITISH LITERATURE | ENGL | 256 | 3 | 85 |
| INTRO TO ENGLISH | ENGL | 112 | 3 | 75 | CALCULUS | MATH | 213 | 3 | 95 |
| CALCULUS | MATH | 112 | 3 | 75 | COMP ANAT VERTEBRATES | ZOOL | 322 | 3 | 80 |
| MASTERPIECES GERM LIT | GERM | 201 | 3 | 75 | VITAMIN BIOCHEM & NUTR | BIOCH | 510 | 2 | 73 |
| INTRODUCTORY ZOOLOGY | ZOOL | 102 | 3 | 80 | GENETICS | PL BR | 301 | 4 | 85 |
| PHYSICAL EDUCATION MEN | P ED | MEN | 1 | P | FALL 65 ARTS | | | | |
| SPRING 64 ARTS | | | | | 79612 | | | | |
| 79612 | | | | | INTRO PHYSICAL CHEM | | | | |
| INTRO QUANT ANALYSIS | CHEM | 236 | 4 | 75 | ORGANIC CHEMISTRY | CHEM | 387 | 5 | C+ |
| INTRO WESTERN CIVILZTN | HIST | 105 | 3 | 80 | MODERN ECONOMIC SOCIETY | ECCN | 103 | 3 | A- |
| MASTERPIECES GERM LIT | GER. | 202 | 3 | 80 | MAJOR AM WRITERS 19CT | ENGL | 333 | 4 | A- |
| FUNDAMENTALS PHYSICS | PHYS | 207 | 4 | 75 | SPRING 66 ARTS | | | | |
| INTRO TO PSYCHOLOGY | PSYCH | 101 | 3 | 90 | 79612 | | | | |
| PHYSICAL EDUCATION MEN | P ED | MEN | 1 | P | ELEM ORGANIC LABORATORY | | | | |
| SPRING 64 ARTS | | | | | 79612 | | | | |
| 79612 | | | | | INTRO PHYSICAL CHEM | | | | |
| ELEM ORGANIC CHEM | CHEM | 353 | 4 | 95 | INORGANIC CHEMISTRY | CHEM | 410 | 4 | A |
| ELEM ORGANIC LABORATORY | CHEM | 355 | 2 | 90 | SHAKESPEARE | ENGL | 368 | 4 | B |
| INTRO WESTERN CIVILZTN | HIST | 106 | 3 | 80 | SPRING 64 ARTS | | | | |
| FUNDAMENTALS PHYSICS | PHYS | 208 | 4 | 85 | 79612 | | | | |
| HUMAN AND SOCIETY | SOC | 101 | 3 | 80 | ELEM ORGANIC CHEM | | | | |
| PHYSICAL EDUCATION MEN | P ED | MEN | 1 | P | ELEM ORGANIC LABORATORY | | | | |

OFFICIAL TRANSCRIPT OF RECORD WHEN IMPRESSED WITH SEAL OF REGISTRAR'S OFFICE

IF CURRENTLY REGISTERED, THIS STUDENT IS ENTITLED TO
AN HONORABLE DISMISSAL UNLESS OTHERWISE INDICATED.

SEP 19 1972

Byrn G. McCalmon

University Registrar
Cornell University, Ithaca, New York 14850

National Museum of

5-6 RANDOLPH CRESCENT



Antiquities of Scotland

EDINBURGH EH3 7TE

Tel. 031-226 2858

20 October 1972

Miss E Ralph
The University Museum
University of Pennsylvania
33rd and Spruce Street
Philadelphia
U S A

Dear Miss Ralph

A brief note to thank you for the preprint which arrived this morning. This is of the greatest interest as I am sure you will appreciate and once I have absorbed it all I would like to come back with some further enquiry.

Enclosed are two short papers relating to some of our own interest in this field. The PPS one should appear next month and the Forum article is about one year old now. I do have two more in process along similar lines and would greatly value your comment if I might send these on when completed?

With all kindest regards

Yours

Francis Denpog

pp H McKerrell
Research Laboratory

Send reprints to D. Lal, India

December 6, 1972

Dr. H. McKerrell, Research Laboratory
National Museum of Antiquities of Scotland
5-6 Randolph Crescent
Edinburgh EH3 7TE
SCOTLAND

Dear Dr. McKerrell:

Thank you very much for your two articles.

We are interested in faience because of the possibility of dating objects of faience by thermoluminescence. As a start, we planned to put dosimeters in selected Egyptian tombs, but we are stalled at the moment because the Egyptians decided that they were a matter of national security.

We are always pleased to see scholars making proper use of the C-14 - tree-ring corrections, as you have done. Since no agreement was reached in New Zealand in regard to the best calibration curve (Suess presented his 1969 curve again; and we and Damon presented new composite ones including the dates of all three laboratories), we are now making another attempt.--this time by computer. We hope to arrive at the best estimate of the true situation.

We shall be glad to send you a copy of this when it is finished, hopefully, in January.

Sincerely yours,

Elizabeth K. Ralph

EKR/1k

National Museum of

Antiquities of Scotland



5-6 RANDOLPH CRESCENT

EDINBURGH EH3 7TE

Tel. 031-226 2858

26 January 1973

Dr E K Ralph
The University Museum
33rd and Spruce Streets
Philadelphia
Pennsylvania 19104
U S A

Dear Dr Ralph

I am sorry not to have replied sooner to your letter of December 6th but was are only just back from the Near East.

The lack of agreement in New Zealand, as to the best calibration curve, is indeed unfortunate. Like you I have been playing around for some time with 'guess' data, from other laboratories. We are primarily interested in the period 0-3000 B.C. since this is the best area for the Egyptian comparison. Overall polynomial regression merely produces a shallow curve, very similar to that of Wendland and Donley, and surely does not do justice to what are undoubted kinks in certain regions. Averaging over each century confirms, as you point out with your more exact procedure, the major kinks nicely. But we still do not get the right sort of agreement when the best Egyptian dates are compared (these being restricted to the BM/UCLA series with consideration only of samples Martin considered impeccable - about 60 in all).

One region particularly causing concern is the Middle Kingdom series. With the helical rising date at 1872 B.C. this is a very accurate dating area for Egyptian history and there is a consistent deviation of several centuries (the curve would make these too old by two to three centuries). Nor really do the Old Kingdom dates fit as they should. There is nothing approaching the even statistical spread to be hoped for and the deviation is again consistently one sided and younger than the tree ring calibration suggests. The differences are not great of course but two or three centuries, at the beginning of the W. European bronze age, is in fact going to cause chaos. We have excellent links with Britain (Messel) and Mycenaean Greece that are totally at odds with the 'overcalibrated' figures. On the other hand, if we calibrate using a fourth order regression fit of the Egyptian dates, the situation is infinitely better. Since I cannot see any better Egyptian dates coming along, and since the regression procedure for the tree ring data seems rigorous and sensible, we are left with a dilemma. Which calibration curve to use. For archaeologists here I think our problems split into two. Firstly comparing one date series with another - and for this either calibration procedure produces broadly similar differences. But the second problem, of attempting to reconcile historical dates, through Minos, Mycenaean or other connections, usually with the Egyptian chronology as the ultimate basis, is a different order of magnitude. Here I intuitively feel we must obviously make better sense of any comparison if we compare like with like, i.e. use the Egyptian based corrections. Certainly, as I say, in some critical regions this procedure is in fact quite reconcilable with good archaeological reasoning.

I do feel that the poor archaeologist has had a very rough time over the past few years and is now, pretty well, utterly confused. Your own assessment of the tree ring data is obviously going to help immensely. However I do think that the Egyptian dates are producing valid differences that will be, in certain areas, very important indeed. And my purpose in writing is really to enquire if you might not think it worthwhile to consider this before coming to your own final conclusions. I would be very happy to send on all our data on this, as once computer work was finished, I had in fact got everything together for an article in the archaeological literature, probably Antiquity. What I

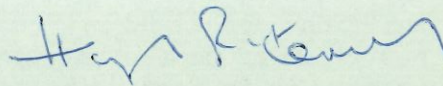
feel/

feel is essential to avoid would be two separate assessments reaching significantly different conclusions, as far as archaeology is concerned. So I will put my plans in abeyance until I hear from you.

Your faience work deserves to prosper as it must provide an excellent check on many of the principles involved. We have been doing some TL work with this attractive material since the problem of alpha dosage is practically non-existent. Just beta from the alkali present and tomb gamma. No radon losses either to worry about. It seems, intrinsically, a cleaner theoretical system than pottery and could provide a significantly better accuracy. The major problem is the environmental gamma. This really restricts things to modern excavation material and our own interest is largely with Cyprus. John Fremlin has been getting good sense out of burnt flint, again a cleaner system than clays.

With all good wishes for 1973

Yours sincerely

A handwritten signature in blue ink, appearing to read "H. McKerrell". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

H McKerrell
Research Laboratory

February 2, 1973

Dr. H. McKerrell
Research Laboratory
National Museum of Antiquities of Scotland
5-6 Randolph Crescent
Edinburgh EH3 7TE
Scotland

Dear Dr. McKerrell:

Thank you for your informative letter of January 26th.

This is a short note to say that we do not yet have the results of our computer programs, and may not have them before I have to leave for Egypt on February 13th.

We have hesitated to include the Egyptian dates because of the "older wood" problem. Perhaps, you already have our Nobel Symposium paper, but I have enclosed a copy in case you do not. In this, when we used our correction factors (as of 1969), we had good agreement for the dates obtained with "short-lived" materials. However, this did not include all of the dynasties by any means.

In our MASCA Newsletter, we had planned to give just a straightforward presentation of the C-14 results for tree-ring-dated sequoias and bristlecone pines, but we could include a brief note about the Egyptian problems.

Another choice would be to publish our Newsletter as planned. Then, in your article, or, perhaps, one that we could do jointly, present the Egyptian and other comparisons.

Please let me know what you think is best.

Sincerely yours,

Elizabeth K. Ralph

P.S. En route to Egypt, I may be in London on February 14 and 15 and morning of 16th. Perhaps we could discuss these matters by telephone.

National Museum of
5-6 RANDOLPH CRESCENT



Antiquities of Scotland
EDINBURGH EH3 7TE

Tel. 031-226 2858

19 June 1973

Dr E Ralph
The University Museum
University of Pennsylvania
33rd and Spruce Street
Philadelphia
U S A

Dear Dr Ralph

I do hope that the lengthy carbon-14 notes I sent you in May or April arrived safely. Things can take a very long while on occasion to reach the United States.

I am in process of gathering together all the information that I want for a fairly detailed article aimed at the archaeologist and I wonder if, and very much hope, you might still be willing to consider a joint venture. What I put down in the notes I sent need not, indeed would not, be anything like a final version. They are just data for assimilation or ignoring as we require.

Please do let me know what you think.

All kindest regards

Yours sincerely

H McKerrrell
Research Laboratory

June 26, 1973

Dr. H. McKerrell
Research Laboratory
National Museum of Antiquities of Scotland
5-6 Randolph Crescent
Edinburgh EH3 7TE

Dear Dr. McKerrell:

Thank you very much for sending your preprints, and please forgive me for not letting you know that they had arrived.

I think that your handling of the tree-ring dates is as good as not better than any other system. In fact, we have recently had three computer experts working with the sequoia and bristlecone pine dates, and the best expert arrived also at 50-year averaging.

We now have plots all over the laboratory and we are really thinking about the long-term and shorter-term oscillations. As soon as we can see through the muddle, I'll be in touch with you again.

Sincerely yours,

Elizabeth K. Ralph

EKR/ek

Douglas K. McLean

CONSULTANT

1225 EXCHANGE BANK BUILDING
DALLAS 35, TEXAS

Ralph

December 1, 1961

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

Dear Sir:

Would you please tell us where we can buy one of
your portable drills and how much it would cost.

Sincerely,

Douglas K. McLean

Douglas K. McLean
Consultant

DKM:jwb

*Houston Tool Co.
P.O. Box 251
Santa Susana, California*

*BAV 100 "mighty Midget" Drill with
various accessories*

December 5, 1961.

Mr. Douglas K. McLean, Consultant
1225 Exchange Bank Building,
Dallas 35, Texas.

Dear Mr. McLean:

Dr. Rainey, Director of the University Museum,[†]
has asked me to reply to your inquiry concern-
ing portable drills.

The one used by Dr. Rainey in Italy was purchased
from the Houston Tool Co., P.O. Box 251, Santa
Susana, California. It is called a BAV 100
"Mighty Midget" Drill and cost approximately
\$2400, not including all accessories.

Sincerely yours,

Elizabeth K. Ralph
Techniques Laboratory

EKR:LF

C
O
P
Y

WILLIAM KOHLER
ATTORNEY AND COUNSELLOR AT LAW
330 BOULEVARD BUILDING
1819 JOHN F. KENNEDY BOULEVARD
PHILADELPHIA, PA. 19103

TELEPHONE
LOCUST 8-2870

April 13, 1973

Dr. M. D. McLeod,
University Museum of Archeology
Downing Street, Cambridge
England

Dear Mac:

Your letter came today, and I had also a most interesting session with Dr. Maddin. All around a most satisfactory day. Enclosed is a copy of my letter to Amexco. The 24th or the 25th is all right. If I can not come to the airport, which is quite possible, Nobo will pick you up. My house number is 215-664-8052.

And now to Maddin. He is all excited and eager to write the metallurgical chapter of the book. This will include the microscopic aspects as well. He does not think much of patination.

Attached is the printout of the new machine. It makes a complete analysis in three minutes. I told him I wanted a complete analysis of all weights shown in the book and he is presently taking this up with the director at Winterthur. As the latter is partly responsible for the development of the instrument he is most eager to cooperate. Maddin will keep all of May 1 free for us and we intend to go with you to Winterthur which is an outstanding museum in any way. Maddin thinks that any gold or silver content over .05 per cent indicates that the metal is more than 100 years old. Maddin leaves on May 4 and will be back by June 18.

You should therefor bring any weights you want to have in the book with you. You should also bring with you a number of weights of which we know the minimum age. As the instrument has no physical contact with the object, no damage can be done.

Maddin also called my attention to an article by Thurstan Shaw "The Analysis of West African Bronzes" in the issue #28 of July 70 of Ibadan. He thinks there may be a close relationship between gold weights and benin bronzes as e.g. in weights #57 and 623 and possibly also Byzantine bronzes found in West Africa. Of course we have enough benin pieces here to analyze them. If you have time to talk to Bill Fagg he might want to give you some other objects of interest.

Maddin's Institute has a microscope with attached camera and automatic exposure. We will be allowed to use it for surface photography while he is away.

So far so good.

Best regards,

B. : 2
William Kohler

WK:mmg
enc.
c.c. Mr. Crownover

March 25, 1970

Dr. Alan McPherron
Dept. of Anthropology
University of Pittsburgh
Pittsburgh, Pa. 15213

Dear Alan:

Thank you for the copies of the reports. I think that "A" should be fine for Nature. Do you plan to add a figure of the grid that shows the big anomaly and the corresponding excavation? This might make it a little clearer. One small question is the after CGS. I think that it should be omitted. usually signifies micro or micron, but this is taken care of by the 10^{-6} .

The B-30 Mobile Drill which we rented in Italy is made by Mobile Drilling Company, Inc., 3807 Madison Avenue, Indianapolis, Indiana 46227.

It was good to see you and I hope too that we shall meet again soon.

With best regards,

E. K. Ralph

EKR/ek

March 7, 1972

To Whom It May Concern:

On Sunday, March 15, 1970, Dr. Alan Mcpherron visited me at my farm in the country (Box 357 Woosamonsa Road, Pennington, N.J. 08534).

One purpose of the visit was to discuss plans for magnetometer surveys and archaeological excavations in Yugoslavia. The other purpose was for me to instruct Dr. Mcpherron in the use of our Schonstedt Fluxgate Magnetometer which he subsequently borrowed for his 1970 field season. For this it was necessary to meet in the country, rather than in the University Museum, where magnetic materials and power lines prevent the magnetometer from operating.

Elizabeth K. Ralph
Associate Director

EKR/ek