

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 4

February 25, 1964

The College

DEPARTMENT OF PHYSICS

Dr. Immanuel Velikovsky
Hartley Avenue,
Princeton, New Jersey

Dear Dr. Velikovsky:

Your great patience in waiting for the C-14 date of wood from the tomb of Tutankhamen is greatly appreciated. The dates for this and that for the Cheops Boat are as follows:

U. of Pa. Lab. No.	Name	Age Calc. with 5568 Half-Life	Age Calc. with 5730 Half-Life
P-726	Wood from coffin of Tutankhamen, 18th Dynasty	1030 \pm 50 B.C.	1120 \pm 52 B.C.
P-725	Pieces of wood from Cheops Boat	2600 \pm 60 B.C.	2740 \pm 62 B.C.

The dates calculated with the 5730 half-life are the preferred ones unless they are being compared with others which have been calculated with the 5568 (Libby) half-life. The difference is 3% of the B.P. (before present) age. According to Zaky Iskander, the historical date for P-726 is 1343 B.C. and that for P-726, ca. 2650 B.C.

Since we prefer to release only series of C-14 dates rather than one or two isolated ones, I have included a list and a graph of other C-14 dates for samples from Egypt which have been published previously. In the list, C-14 dates for the samples supposedly representative of the same period have been grouped together except in a few cases where the C-14 dates differed significantly. For some of the samples, the "known ages" listed differ from the published ones. These have been changed to make them more consistent with the more recently published chronologies of W.C. Hayes and W.S. Smith.

I have not yet succeeded in obtaining a 9th century B.C. sample from Mesopotamia, but hope to have the opportunity to inquire about this at the British Museum when I go to England in April.

Sincerely yours,

Elizabeth K. Ralph

Elizabeth K. Ralph

EKR/deh
Encl.

cc: Dr. F. Rainey, Univ. Mus.

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 4

March 5, 1964

The College

DEPARTMENT OF PHYSICS

Dr. Immanuel Velikovsky
Hartley Avenue,
Princeton, N. J.

Dear Dr. Velikovsky:

Thank you for your letter of March 2nd.

In regard to sample P-726 from the tomb of Tutenkhamen, the weights of the woods were as follows:

11.5 grams Lebanese cedar, 1 piece
14.5 grams Zizyphus spina Christi, 2 pieces

We burned all three pieces together (26 grams). Neither type was large enough by itself.

Various tests have indicated that only the outer growth ring of a tree has a contemporaneous amount of C-14, that is, it is in equilibrium with the atmospheric $C^{14}O_2$. Except for a slight diffusion of sap inward, which seems to be insignificant, the inner rings have C-14 ages representative of the years that have elapsed since they were outer rings. Therefore, a C^{14} date for a sample from the inner part of a log would not be representative of the time of cutting of the tree.

The magnitude of this error varies greatly in different regions and with different trees. Some examples of this possible error for samples from Gordion, Turkey are discussed on pp. 362-3 of the enclosed reprint. These logs, with extremely narrow growth rings, are exceptional. The woods which I have observed from Egyptian constructions have much wider rings.

Sincerely yours,

Elizabeth Ralph

Elizabeth K. Ralph

EKR:LF

M
October 22, 1968

Dear Mr. Mainwaring:

Just a note to say that I have the staff here preparing a study on the current status of radiocarbon and archaeological dates in Egypt. London is doing a long study of this, and we should have the data for you shortly.

All the best.

Sincerely,

Froelich Rainey
Director

Mr. Bruce Mainwaring
Foundation for Studies of Modern
Science, Inc.
P. O. Box 132
Princeton, New Jersey

FR/j



UNIFORM TUBES, INC.

COLLEGEVILLE, PENNSYLVANIA 19426

489-7293 (AC215)
TWX 510-660-6107
TELEX 84-6428

November 6, 1968

Dr. Froelich Rainey
The University Museum
University of Pennsylvania
33rd and Spruce Streets
Philadelphia, Penna. 19104

Dear Dr. Rainey:

I want to take this opportunity to thank you again for the very pleasant luncheon on October 16, and to acknowledge with thanks your letter of October 22. I really appreciated very much your offer to obtain the information on XX and XXI dynasty radiocarbon and archaeological dates. I feel sure that the results will be quite interesting.

I did not write to you sooner because I had hoped by this time to have obtained some information regarding paleomagnetic studies. You may recall that we discussed the fact that there exists in the literature indications of reversals of magnetic polarity in historic times. As soon as the material comes to hand I will forward it for your comments.

After our luncheon I neglected to ask you whether you had finished the copy of "Earth in Upheaval". If you have finished with it, I would appreciate it if you would return it at your convenience. I really had intended that we should discuss the work. Perhaps we can do that some time in the near future.

Thanks once again for all of your help.

Kindest personal regards,

Bruce

ABM:cj

A. Bruce Mainwaring
President

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COPY FOR MR. MAINWARING

A PICKER CORPORATION AFFILIATE

333 STATE STREET
NORTH HAVEN, CONNECTICUT 06473
203 288-3806

February 24, 1969

Mr. Alfred de Grazia
President
Foundation for Studies of Modern Science, Inc.
P. O. Box 132
Princeton, New Jersey 08540

Dear Mr. de Grazia:

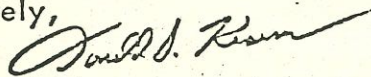
Thank you for your letter of inquiry concerning our Benzene Synthesizer. My supply of brochures has recently been exhausted, so I am forwarding your request to our Sales Department.

In the meantime, if you could give me any specific information as to your intended application, I am sure that I could be of some help. The Benzene Synthesizer is essentially a device for converting the carbon in organic material into benzene. The process requires approximately four hours and chemical yields of 85 to 95% can be expected. Benzene happens to be an ideal solvent for liquid scintillation counting, so by synthesizing the sample material into the solvent, one is able to detect low count rates in a relatively large amount of sample with high efficiency.

Using a Picker Nuclear Liquimat 220 as the scintillation counter, and a special 5 cc capacity counting vial, we commonly experience backgrounds of less than 5 counts per minute at 65% counting efficiency. Using this system the expected range of dating with 48 hour counting periods is up to 45,000 years before present.

If you require any further information, please contact me at your earliest convenience.

Sincerely,



Donald S. Kearns
Director, Applications Laboratory

/b

cc: J. K. Larin

CKER



UNIFORM TUBES, INC.

COLLEGEVILLE, PENNSYLVANIA 19426

489-7293 (AC215)
TWX 510-660-6107
TELEX 084-628

March 11, 1969

Dr. Henry Michael
Masca Laboratory
University Museum
34th and Spruce Streets
Philadelphia, Penna.

Dear Henry:

I am enclosing a copy of a letter from Intertech, Inc. regarding the Benzene Synthesizer which we described in our meeting last Thursday. A Mr. Quimby, from the company, has called me about this synthesizer, and I wanted to give him your name. It is possible that your laboratory could use this piece of equipment.

I enjoyed very much meeting you last week and am very enthusiastic about our forthcoming project. I look forward to receiving an outline from you for presentation to our board on Sunday, March 23. I am sure that we will have many interesting discussions in the future.

Best personal regards,

Bruce

A. Bruce Mainwaring
President

ABM:cj

Enclosure

1 Veror
July 22, 1970

Mr. A. Bruce Mainwaring, President
Uniform Tubes, Inc.
Collegeville, Pa. 19426

Dear Bruce:

The Egyptian samples were finally released by the customs officials, and Lanny Bell has rested enough to be able to give us some preliminary information about them.

All in all, there are 14 samples. All but three of them are halfa grass (reeds), the three being wood. The samples come from five of the Dra Abu el-Naga pyramids. Lanny Bell collected them in different locations within the pyramids, and depending on the locating from which they come he called them "primary" (from inside the pyramid), "secondary" (Half-way into the pyramid), and "tertiary" (near, but not on, the surface).

The 14 samples break down as follows:

Reeds:

1. Nebwenenef (primary, secondary and tertiary)
2. Inhernakht (primary and secondary)
3. Roma-roy (primary and secondary)
4. Bekenkhons (primary and secondary)
5. Tjanefer (primary and secondary)

Wood:

- Tjanefer (one sample)
- Roma-roy (two samples)

The tentative dates for the Dra Abueel Naga pyramids are as follows:

- Nebwenenef: Ramesses II
- Inhernakht: Ramesses II - Ramesses III
- Roma-roy: Ramesses II - Sety II
- Bekenkhons: Ramesses II - Ramesses III
- Tjanefer: Ramesses II - Ramesses III

The last of these high priests, Tjanefer, is probably the one best dated. Also, note that we have both wood and reed samples from his tomb. Naturally, we will do these three samples first.

I hope that this preliminary description is satisfactory. Before we process the samples, we will gather and record all of the information pertaining to its archaeological dating. We have the basic information for the Tjanefer sample now, but not the details for the other samples. These will have to be culled from Lanny Bell's field notes as he works on them during the fall.

If there are questions, please do not hesitate to call me (before August 1).

Sincerely yours,

Henry N. Michael
Research Associate

HNM/ek

September 16, 1970

Mr. A. Bruce Mainwaring, Chairman
Uniform Tubes, Inc.
Collegeville, Pa. 19426

Dear Mr. Mainwaring:

As a follow up to our recent conversation, I am writing to say that P-726 consisted of 11.5 grams cedar of Lebanon and 14.5 grams of Zizyphus and that we burned the whole sample.

As for the beam with the cartouche of Seti I (P-227), Henry Michael has now examined it, and it appears to be a section of acacia (about 2 X 3XX 11 inches) from a relatively large tree. This section contains 40 to 45 growth rings, and has branch knots at each end. From the size and shape of the branch knots, it is possible that the section came from near the outer part of the tree. However, one cannot be sure of this with certainty. Therefore, it would be best to consider this sample and its C-14 date suspect due to the possible outer (or inner) growth error.

Please excuse my delay in sending you this information. LannyBell is working on the information sheets and we hope to have them soon.

Sincerely yours,

Elizabeth K. Ralph

EKR/lrs

August 8, 1973

Mr. A. Bruce Mainwaring, Chairman
Uniform Tubes, Inc.
Collegeville, Pa.
19426

Dear Mr. Mainwaring:

This is a short note to confirm our telephone conversation of today in regard to the publication in Pensée of Henry Michael's and my correspondence as shown in galley proof - namely, that it is not to be published for the time being, and if ever published, will be subject to our approval.

When Henry Michael returns, I shall ask him to clarify his recent letter in regard to sample P-1732.

Sincerely yours,

Elizabeth K. Ralph