

AMERICAN RESEARCH CENTER IN EGYPT
INCORPORATED

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RICHARD A. PARKER
Membership Secretary

479 HUNTINGTON AVENUE
BOSTON 15, MASSACHUSETTS

13 December 1954

NEWSLETTER NUMBER FIFTEEN

PRELIMINARY NOTE

On later pages in this Newsletter a series of reports by Mr. Bothmer, Director, and Mr. Dimick, Fellow of the Center in Cairo, is published in chronological sequence on preparations for removing the heavy blocks of limestone covering the Boat Grave adjacent to the Great Pyramid of Cheops, and on the actual lifting of some of them. These eye-witness accounts by scientifically competent observers are of immediate interest as news and of permanent value for the archaeological record.

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THE ANNUAL MEETING

The Annual Meeting of the Center was held on November 16 at 2:30 p.m. in the Museum of Fine Arts, Boston. In the absence of Mr. Edward W. Forbes, President, Mr. Dows Dunham, Vice-President presided. One hundred and eleven Members were present in person or represented by proxy.

The Minutes of the Annual Meeting of 24 November 1953 were presented and it was VOTED to accept these Minutes without reading.

In the absence of Mr. Carl T. Keller, Treasurer, the financial report from 1 October 1953 through 30 September 1954 was presented by Mr. Dunham.

Summary of Cash Receipts and Disbursements

Boston Account (U.S.Dollars)

Balance in Bank 30 September 1953	\$2,471.22	
Received as dues and donations	<u>2,510.00</u>	\$4,981.22
Expenditures		
Newsletter	491.74	
Expenses on a/c of Administrative Officer in Egypt (Mr. Jeffery 2,000; books 32.70)	2,032.70	
Stationery, Office Supplies, and Expenses	69.21	
Postage	44.98	
Expenses of Meeting and Statutory Filing Fee	16.01	
Honorarium for Executive Secretary	<u>375.00</u>	<u>\$3,029.64</u>
Balance in Bank 30 September 1954		<u>\$1,951.58</u>

Cairo Account (Egyptian Pounds)

Balance in Bank 30 September 1954

(LE 225.880 contributed in 1952, less Bank charges to date) LE224.630

Mr. Richard A. Parker, Membership Secretary, presented his report for the year ending 30 September 1954. During the year 4 Members died, 6 resigned, and 6 allowed their membership to lapse. Eleven new Members were admitted. This is a net loss of 5 Members. The total Membership of 212 is divided among the following classes:

Regular	142
Contributing	44
Sustaining	15
Associates	5
Fellows	1
Life	<u>5</u>
	212

Ways and means of getting new Members for the Center were discussed and it was agreed that an appeal might be included in the Newsletter requesting Members who receive it to endeavor to increase membership among their friends.

Mr. Dunham, in the Chair, read the following report on behalf of the President, Mr. Forbes.

"Our President, Edward W. Forbes, who is unfortunately indisposed and unable to preside in person, has asked me to preside at this meeting and to report on his behalf. You will be glad to know that his indisposition is not serious and that he fully expects to resume his normal activities very shortly.

"My report as President pro-tem will be brief. The activities of the Center will be familiar to you from the Newsletters which you have received from time to time, the latest one, No.14, within the week. Professor Arthur Jeffery, our Field Director in Egypt for 1953-54, left Egypt last summer, and his final report will be presented to you presently. Being, as you know, a specialist in Islamic and Arabic studies, his incumbency as Field Director laid special emphasis on these aspects of the Center's interests, and I think it has been healthy that the Center, all of whose Field Directors had formerly been Egyptologists, should thus have been able to emphasize its wider interest and to draw to its support scholars in more varied fields. Mr. Bernard V. Bothmer replaced Mr. Jeffery as Field Director in September of this year and as his report, which you will hear presently, shows, has started his incumbency with the energy and enthusiasm which all who know him anticipated. He is being ably assisted by his wife as Administrative Officer and by Mr. William K. Simpson as Research Associate. Mr. John Dimick has been appointed Fellow of the Center in Cairo for 1954-55. I have every confidence that Mr. Bothmer's tour of duty in Egypt will do much to enhance the prestige of the Center and to enlist the active support of the American community and business firms there, a matter which Mr. Bothmer has very much at heart and which I feel sure cannot fail to increase the Center's strength and usefulness."

The complete text of the revised By-laws of the Center was presented to the meeting, and after due deliberation it was VOTED to accept these by-laws which had been prepared by counsel. (A copy of the revised By-laws will be sent to any Member who requests it.)

Mr. Dunham presented the resignation of Mr. Carl T. Keller as Treasurer, and it was VOTED to accept this resignation with great regret.

Mr. Dunham presented the following list of persons to be elected as Officers and Trustees of the Center.

President

Vice-Presidents

Treasurer

Assistant Treasurer

Executive Secretary

Membership Secretary

Executive Committee

Edward W. Forbes
Robert Woods Bliss
Edwin E. Calverley
Dows Dunham
John A. Wilson
Bernard V. Bothmer
Ashton Sanborn
Bernard V. Bothmer
Richard A. Parker
Edward W. Forbes, Chairman
Mrs. Joseph Lindon Smith
Richard A. Parker
John D. Cooney
Dows Dunham
Robert S. Black
Robert Woods Bliss
Frederick Foster
George Camp Keiser
Carl T. Keller

Trustees (to serve through
30 November 1959)

(to serve for the unex-
pired term of the late
Ludlow Bull, through 30
November 1957)

Richard A. Parker

It was VOTED to authorize the Acting Secretary to cast a ballot for the election of the above-named Officers and Trustees, and the ballot having been cast they were declared elected.

Mr. Dunham read Minutes on Members of the Center who had died since the last Annual Meeting: Dr. Ludlow Bull; Mrs. Carl T. Keller; Dr. George Harold Edgell.

At the request of Mr. Dunham, Mr. Sanborn read a summary of Mr. Jeffery's final general report of the activities of the Center in Cairo during his term as resident Field Director in Egypt for 1953-54, the substance of which has already been published in earlier Newsletters.

Mr. Dunham then read a report from Mr. Bothmer, Director of the Center's headquarters in Cairo for 1954-55, addressed to Mr. Forbes.

"I have the honor to submit my report for the first six weeks of the academic year 1954-55. In spite of the short period which has passed since the staff arrived, the Center's activities are numerous and manifold. We have received, and aim to fill, the requests sent to Cairo by scholars from

American and several European institutions, most of them relating to monuments in the Cairo Museum. We have resumed the contacts already established by my predecessor and have instituted close cooperation in all fields covered by the Center with the Department of Antiquities, the various museums, the U.S. Educational Foundation for Egypt, and the U.S. Information Service, all of which consult us frequently. Relationship with the Egyptian officials and scholars has developed very cordially, and the Center has had opportunity to be of service to them on several occasions. Mr. Dimick, of our staff, has even been consulted with regard to the heavy lifting equipment now being installed over the roofing blocks of the eastern boat grave on the south side of Cheops Pyramid. The Center has also acted as intermediary for a plan to have the graffiti on these blocks recorded by the best available infrared photographic equipment, and at the time of this writing it is hoped that this plan will be put into effect with the help of several U.S. Government agencies here in Cairo. The situation with regard to bringing the Center's aims and work to the attention of the large resident American community has been explored, and as a beginning we hope to find the support necessary to bring Ray Garner and his film on the archaeology of Egypt to Cairo, a splendid color movie which was made under the auspices of the Center in 1951. If this can be arranged we expect to continue our campaign by means of lectures and of guided museum tours. To show its good will to the Center, the Department of Antiquities has on several occasions invited the entire staff of the Center to small gatherings at which the country's leading Egyptologists were present. One of these was the recent opening of the hole leading to the Cheops boat chamber which is described later in this Newsletter."

Mr. Dunham reported the gift to the Center's office in Cairo by a donor who wishes to remain anonymous of a jeep in excellent condition and with special fittings. He also reported the cordial and helpful relations which have been established between Mr. Dimick and the young Egyptian engineer, Mr. Osman, in charge of raising the blocks covering the boat grave. The report on technical problems involved in this work, written by Mr. Dimick at the request of the Department of Antiquities, is published in a later part of this Newsletter.

Finally, the necessity of raising substantial funds for the security and development of the Center in Egypt was discussed at considerable length.

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THE CHEOPS BOAT GRAVE: REPORT FROM THE DIRECTOR

On October 23, just after the manuscript of Newsletter XIV had been mailed, the Director General of the Department of Antiquities called the Center's office on the telephone and announced that the seal over the hole in one of the ceiling blocks of the eastern boat grave on the south side of the Cheops Pyramid would be broken that afternoon at 4 p.m. for a visit by foreign statesmen. He very kindly invited the entire staff of the Center to come to Gize and have its first look at the Cheops boat. Mr. and Mrs. Dimick, Mr. Simpson, and Mr. Bothmer went to the Pyramids in the early afternoon and were most cordially received by Mr. Zaki Noor, the Inspector of the site, and by Mr. M. Salah Osman, the engineer of the Department of Antiquities, who is in charge of technical operations. Mr. Daumas and Father du Bourguet of the French Institute had also been invited, as well as Mr. J.-P. Lauer of the Department of Antiquities and Mr. Ben Grauer who is a member of the Center. The twentieth block from the east,

one of the 44 limestone blocks forming the ceiling of the boat grave, has been partly cut away on the northern end. The remaining lower portion has been pierced and is usually covered with lime plaster over burlap. After this seal had been removed by the workmen a hole appeared which is indeed large enough to get one's head through. By the light of an electric lamp inserted through a second, smaller, hole a few inches further to the west it is possible to see the deck of the boat in its entire length as well as the walls and the roof of the chamber in which it is imbedded. The position of the observer, however, who kneels in a cramped space with his head down, hardly helps to gain more than a first impression, and this writer, for one, would like to admit that the photographs taken by reporters when the grave was first opened are far more helpful for detailed study.

The cartouche which has been read as that of Chephren is visible on the under side of a block west of that with the hole, but the second sign of the name appears to be smudged and is by no means clear. There are typical quarry and gang marks on the walls as well as on the ceiling of the chamber which, in most cases, do not resemble known hieroglyphs. The boat itself is, as reported, a large structure of dark wood which fills the entire cavity of the chamber, but not much detail can be made out which does not appear already in the photographs available. Since the block with the hole has been chiseled off very close to the point where its northern edge rests on the rock-cut ledge, over six feet of its entire length are held in the original position only by the pressure and friction of the two adjoining undamaged blocks to the east and west. The removal of this block, and the question whether it should be taken up first when the ceiling blocks of the chamber are being lifted, poses some problems, and after the visit of October 23 Mr. Lauer and Mr. Dimick, both of whom have had long experience in the engineering aspects of archaeology, discussed the possible methods of raising the stones with the engineer in charge, Mr. Osman.

As has been reported earlier the height of the limestone blocks forming the ceiling varies. The larger blocks are about 180 cm. high, 85 cm. wide, and 450 cm. long. Considering the specific gravity of limestone this establishes the weight of each of these blocks between 16 and 19 tons, considerably higher than the 12 tons originally announced. There is a thin layer of lime plaster between the blocks, which assured the airtight sealing of the chamber for thousands of years. The row of ceiling slabs consists of 41 blocks which are more or less of the same size. Blocks no. 42 and 44 lie in the same position, parallel to block no. 41, but are less than half its length. They adjoin the western vertical surface of block no. 41. Between them, but at right angles to, and abutting against, block no. 41 lies block no. 43. Nos. 42, 43, and 44 appear to lie on bed rock; block no. 42 must have been put into place last and never came to rest in a strictly horizontal position. Beyond the eastern and western end of the row of blocks are deep holes in the bedrock. They may have been used for the emplacement of the 'dead man,' the large beam used in lowering the blocks over the chamber.

During the night of October 25/26 the guards heard some noise in the boat chamber, and the next day a commission of officials and scholars was authorized to reopen the seal and to inspect the chamber. Unconfirmed reports mention that a piece of rock as well as a small part of one of the ceiling blocks at the eastern end had fallen onto the boat, but apparently caused no damage. This is one more reason why the Department of Antiquities has decided to go ahead with the raising of the stones in the course of the coming winter, and the necessary appropriations have already been made.

The surface of the ceiling blocks is quite rough and does not show the smooth dressing applied to the under side. This rough surface shows traces of writing on 35 blocks. Three of these graffiti are dates, and the cartouche of Radedef is said to occur eight times, but there are more inscriptions on the sides of these blocks, and those on the long sides cannot be recorded before removal. The wall which runs parallel to the south face of the Cheops Pyramid over the ceiling blocks of the two boat graves is well indicated in fig. 5 and map 2 of Giza X by Hermann Junker. The length of the eastern boat grave extends from mastaba VI through mastaba VIII as mapped there in fig. 5.

While Mr. Bothmer has taken great interest in the graffiti of the limestone blocks, Mr. Dimick has frequently been consulted with regard to the raising equipment now under construction over the boat chamber for the removal of the limestone blocks. He has had a number of conferences with Mr. Osman, the engineer, and with Professor Abdel Moneim Abubakr, chairman of the committee which supervises all operations at the boat grave. As a result of their conversations Mr. Dimick was asked by Professor Abubakr to draw up a detailed report on the raising equipment as constructed by the Department of Antiquities. He inspected it carefully, made his own calculations of its capacity, independently appraised the rope, cranes, scaffolding, track, dolly, and the weight of the stones, and filed his report on October 31. It appears below.

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MR. DIMICK'S REPORT ON THE RAISING EQUIPMENT OF THE BOAT GRAVE

Mr. John Dimick, Fellow of the Center in Cairo for 1954-55, has worked extensively in Latin American archaeology since 1936. More recently he was director of the expedition sponsored by the United Fruit Company which restored the ancient city of Zacaleu in Guatemala. The site was eventually dedicated to the Government of Guatemala and is now a national park. This is Mr. and Mrs. Dimick's first visit to Egypt; in February they will join the American-Egyptian excavation at Mitrahine which is to be conducted by the University of Pennsylvania and the Egyptian Department of Antiquities.

MR. DIMICK'S LETTER:

"Oct. 31, 1954

"Professor Abdel Moneim Abubakr
Pyramids Postoffice,
Giza

"Dear Professor Abubakr:-

"Following the theme of our recent conversation, here are some thoughts on the engineering problems of the solar boats. First I would like to congratulate you and those who are associated with you on the sound thought that has gone into the physics of the job. In that connection may I also say that your Mr. Osman is, by my assessment, a most happy choice. Aside from his utter loyalty, he possesses two primary essentials of an engineer, the desire for absolute accuracy, and caution. He is certainly a pleasant associate and my experiences with him have been highly profitable. Upon his request I have checked certain vital figures that have to do with stress and strain on equipment. I give you here my findings.

STONE

"My calculations of stone weights concern themselves only with the heaviest stone, frictional effects being considered equal. Therefore I measured a stone that appeared to possess the greatest bulk and found it to be 4.5 x 1.8 x .85 meters, 6.88 cubic meters. Mr. Osman and I agreed that every available source of information on limestone weights should be explored and I was able to make the following research-

Source	Av. Wt. cu.m.	Wt. of stone	Max. Wt. cu.m.	Wt. of stone
U.S. Eng. Handbook	5510	37800	6020	41500
General Eng. Handb'k	5220	36400	5900	40800
H'b'k of Eng. Fund'ls	5030	34500	6390	44000
St'd Eng. Tables	4600	32400	4600	32200
		4 $\sqrt{141100}$		4 $\sqrt{158500}$
Average		35275 lbs.		39625 lbs.
		17.6 tons		19.8 tons

Mr. Osman shares by feeling that only maximums should be respected when preparing equipment for a job as serious as the one at hand. Therefore let us assume that all stresses be based on 19.8 tons, approximate weight of the heaviest stone. Our factor of safety according to conditions should not be less than 33 1/3 percent, preferably 50 percent. Using fifty percent, our maximum stone now assumes a weight of 20 tons plus 10 tons or 30 tons. With that assumption established let us turn to available equipment.

ROPE

"Hemp rope is on hand in sufficient quantity. It is diameter 1 1/2" and presumed to be Manila quality. It is five strand new. The international formula for rope of that character is- 7000 pounds x D² + 600 pounds. Translated to the rope at hand,

$$7000 \times 2.25 + 600 = 16350 \text{ pounds per turn of rope, approx. 8 tons}$$

Two turns equals 16 tons per crane or 32 tons for the two cranes. This is without any safety factor allowance but, since the crane hooks are spacious, another turn can easily be accommodated if so desired.

CRANES

"Two hand-operated worm geared cranes are provided and will be used in conjunction. Each carries the manufacturer's mark of twenty ton capacity stamped on the gear box and it is required practice of the builder to incorporate ample safety factors into equipment of that character. It is conservative to assume that each crane has more than 25 tons capacity.

SCAFFOLDING

"I was not present when the scaffolding was erected. Timbers, while not prime stock, appear to be sound and the method of erection is in line with good practice. Some splices which were necessary in the heavy stringers are not placed over the buttresses. However in those instances the splices have been fortified by a lateral timber of sufficient weight bolted to the stringer ends. Actual stress resistance of such a splice depends directly on the bolts. Without examining the bolts I am entirely satisfied with Mr. Osman's assurance that they are equal to the task.

TRACK

"The rail for the dolly track is lighter than would have been selected were it available. A sounder weight would have been rail of 40 pounds to the yard. However the light rail in place has been well spiked by Mr. Osman's men and it should not buckle or turn. If it should fail to perform then the already described safety percentages should prevent critical misbehavior.

DOLLY

"The carriage has been well constructed on 1 3/8" axles which revolve in roller bearing stuffing boxes. The chassis consists in the main of two 15 x 15 inch timbers bolted athwart the chassis at right angles to the axles, they in turn supporting two cross timbers of equal dimension running parallel to the axles. This method reduces the area of downthrust strain to a minimum and produces a safety factor too large to warrant calculation. Breaking point of the 1 3/8" axle far exceeds any expected stress.

From the upper cross timbers cranes will be suspended by turns of the same quality 1 1/2" rope.

"By the foregoing process we have proceeded from the gravity bound covering stones through the equipment assembled for their removal. Mr. Osman and his able foreman have done a fine job with the tools they have. It will greatly help their planning if they can be told as soon as possible what final disposition is to be made of the stones. The additional movement of them and resultant disfiguring will then be held to a minimum. It should be remembered that none of the above calculations or estimates makes allowance for kinetic or static friction. It is my understanding that friction on stone number one will be relieved by sawing and that the stones will then be removed starting with the keyed ones at the west end.

"If it is your wish I shall be proud to collaborate with Mr. Osman on a further report when progress has been made. On that theme I wish to assure you that I shall at all times respect your rights to priority over all public releases of any nature. It will only be necessary for me to make some report of my activities to my two sponsors, the American Research Center and University of Pennsylvania, both of whom are in intimate contact with your Department on Antiquities.

"This exciting opportunity to work with you is one that I cherish immensely. At this time I am fortunate in having ample time at my disposal and I shall be honored and happy to serve you in any capacity that my talents permit.

Cordially yours,
John Dimick
American Research Center in Egypt"

* * *

THE OPENING OF THE CHEOPS BOAT GRAVE

At the official raising of the first intact ceiling block the Center was represented by Mr. and Mrs. John Dimick. The Minister of Education, foreign diplomats, the press, representatives of the Egyptian State Tourist Administration and of the Department of Antiquities attended. Mr. Dimick reports on this event as follows:

"November 23

"At 10:20 this morning, the first of the important stones covering the boat of Cheops responded to the strain of the gear and started to rise. Yesterday three smaller stones forming a key at the end had been taken out. A few minutes before noon, the stone was resting on powerful timbers almost entirely outside the temporary shed. The stone rose about two meters without incident, which was enough to allow the bottom to clear the walls plus the thickness of 15x15 inch beams acting as a skid. My calculation after being able to measure it entirely for the first time, are that this stone, being a fairly middle-sized one of the group, weighs about 16.2 tons. Temporary seats had been provided at the west end of the shed where the wall had been removed and a tier of about forty seats had been built. Reporters and photographers were allowed a fair amount of movement around the south end of the stone during the raising but the east end was kept clear of spectators so that the workmen would have a long sweep for pulling the light chains geared to the worm hoist above. The north end was also open where some officers, members of the Department of Antiquities and other lesser lights such as the writer were gathered. It had been thought almost unanimously that the stone's width of 90 cm. would cover only about 30 cm. of open pit, but when it was high enough to see, it was found that almost its entire width was over open cradle and boat end. Consequently the gathering was able to get a splendid view of the boat and to smell the musty odor rising from it which had been described, perhaps rightly, as a kind of perfume. On me it had no such romantic effect when adulterated with the limestone dust that was rising with increasing volume. That is one of the finds that has, or will, entirely disappear with the uncovering. It can only be preserved in the minds of a few who smelled it and whose opinions, I am sure, will vary too widely for factual record purposes. The view revealed little of concrete nature. It showed a bowsprit or something similar in a conventional manner and it stood in a grotesquely perpendicular position as if possibly the boat had been made too long for the pit, and that the prow - if it is the prow - had been jammed in. The truth of this will shortly be established. This is only meant to be a first impression. The most astounding revelation to me was the perfectly cut timber that ran along the side of the boat and was solidly against the end of the pit as if it were there to brace the boat end. This was probably its actual purpose. This timber is cut with such smooth sides that it looks as if it had been done with a modern steel saw. It is approximately 2x15 in., a guess from our position, and appears to be a natural dark wood. Several other planks of the same size can be seen and many evidences of a cloth, the purpose of which has not as yet been explained. Some conjectures are that it was simply a cover for the boat; others that it was sail material laid on to complete the grand illusion.

"Mr. Kamal el Mallakh was in complete charge of operations, thus fairly well confirming my report to Mr. Bothmer of several days ago that there had been another change in ministerial favor. All members of the Egyptological Committee were present, but only the engineers were active. It is hoped by this reporter that now that the sensational side of the affair is past, the scholars will be given a chance to work. The job in one requiring complete cooperation between the two branches of the Department."

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MORE ON THE CHEOPS BOAT GRAVE FROM THE DIRECTOR

On November 7 the equipment assembled to lift the limestone blocks forming the ceiling of the boat grave was tested. Mr. Zakaria Goneim and Mr. Kamal el Mallakh returned to Cairo on November 19, and the following day the three key-stones at the western end were removed. On November 21 the two blocks which had

been discovered under the keystones were taken out and found to rest on bed rock. The following day the first of the large blocks, no. 41, was pried away from its neighbor to the east and raised a few inches after which it was let down again so as to be ready for the grand opening on November 23 on which Mr. Dimick has reported above. On November 29 block no. 40 was lifted, the following day block no. 39 and on December 2 the fourth large block, no. 38, was raised from the shelf and rolled outside the temporary shed where it now rests next to the others on a blocking of stones and wood. The slabs lie about 50 cm. apart, in the same order and position in which they had rested over the boat grave, but since they are raised only about 15 inches above the ground it is difficult to inspect the under side. On December 3 the Director was invited by Professor Abubakr, chairman of the committee which supervises operations at the site, to see the part of the boat which has been uncovered thus far. The Ambassador and Professor Ahmed Fakhry, too, were present, and after the boarding had been removed which has been laid across the open cavity the whole western end of the so-called boat was exposed. This boarding, incidentally, rests on the same two ledges which support the limestone blocks; it is covered with canvas and sealed with plaster against the rock. With the help of powerful searchlights it was possible not only to inspect the exposed part of the pit, but also to see clear down to the eastern end of the boat chamber.

Except for the upright bowsprit and the long oar mentioned in an earlier Newsletter, there is hardly anything which suggests the burial of a real boat. The maze of logs and cut timber and planks at the western end may be material which once belonged to a boat, possibly disassembled, but none of these pieces are fitted together so as to suggest what part of the boat they belonged to. There are a number of large beams, about 8 x 14 in. in diameter and perhaps six feet long which, at this end of the boat, are clearly out of place, and the same holds true for various planks and spars which lie about as if they had been thrown in carelessly. The bow-post ends in a papyrus blossom with the typical five-fold tie underneath. The post is put together lengthwise of two identical parts which appear not to have been bolted so that the tie pattern does not quite match. The large beams and some of the planks show a number of rectangular slots about 4 in. long and 1 in. wide which run lengthwise with the grain of the wood, but at irregular intervals, so as to receive the end of struts or spars. Further toward the main body of the 'boat' beams, posts, planks and what look like odd pieces of timber are piled up, pointing east-west and covered by large panels which were made of several boards with cross bracing. These panels form several layers and cover almost the entire length of the structure, thus causing earlier observers to report 'decks' which had been visible. From the western end, however, one can look below them and see that they rest on loose wood work of all kinds and description; no hull is visible and the whole leaves the impression of a mass of lumber laid out to give the general appearance of a boat. This impression is strengthened by the end posts standing upright. There is no part of a boat visible to which the western post could have belonged, and the large beams mentioned above may have formed the keel or some part amidships, but are much too heavy to fit with the slender bowsprit.

Where the main mass of piled-up woodwork begins, several poles are lying in a bundle. They are about 4 to 5 feet long and end on one side in a bulb or bud, surmounted by a spike. They are tent or canopy poles, known from the furniture of Queen Hetep-heres and from Middle Kingdom boat models in which they support the roof of the deck cabin. In the north-west corner of the rock-cut chamber lies a pile of Manila-type rope, about one quarter inch thick, and another disorderly pile of rope rests on the bottom of the chamber against the south wall, approximately below the 35th block. There are other

ends and bits of rope visible, some two or three times as thick, but the most surprising material is a kind of heavy shoelace, brown in appearance, which hangs in bundles over many spars and beams. At first glance it looks like the stems of water lilies, but what it is cannot be determined from a distance. There is a coarse-fibered textile, perhaps sailcloth, of which a few pieces lie around, and then there is a kind of woven mat with thick strands which rests on some spars and on the large panels.

To sum up this first impression it may be said that the planking, especially when seen from above, and the two end posts east and west superficially give the appearance of a boat. But no hull, no construction is visible thus far which prove this to be a boat. The woodwork may have once belonged to a vessel, but whether all pieces can really be fitted together to form a boat remains to be seen.

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'EGYPT - A JOURNEY INTO THE PAST' SHOWN IN CAIRO

Members of the Center will remember that Mr. Ray Garner made a documentary color film on the archaeology of ancient Egypt during the summer of 1951, much assisted by Mr. William Stevenson Smith who was then the Center's Director in Cairo. Financial support was provided by the Harmon Foundation of New York and by the Egyptian State Tourist Administration. After his return from Egypt Mr. Garner complemented the film with views of objects in the Egyptian collections of Brooklyn, New York, and Boston, and a number of Egyptologists, all members of the Center, advised him on the cutting of the film as well as on the factual information of the narrative.

The film was shown before a number of Societies of the Archaeological Institute of America and other interested groups, especially in universities and museums, and in January of this year Mr. and Mrs. Garner went to Greece under the auspices of the Archaeological Institute to make a color movie on the archaeology of ancient Greece. This film was completed in November, but before returning to New York Mr. and Mrs. Garner went to Cairo on a flying visit to show - Egypt - A Journey Into the Past - at the theater of the U.S. Information Service in Garden City for the first time in the country where it had been made.

The plan for this undertaking developed shortly after the Center resumed operations in Cairo in the fall, but that it was executed successfully is mainly due to the helpfulness and co-operation of two agencies, Ethiopian Air Lines and the United States Information Service in Cairo. Mr. M. Masri, head of the local office of Ethiopian Air Lines, agreed to bring Mr. and Mrs. Garner with their equipment from Athens to Cairo and to fly them back to Athens free of charge, and U.S.I.S. lent its 200-seat theater and its service, printed invitations and tickets, and released the news of the film showing to the press in English, Arabic, and French. The officers of U.S.I.S. contributed greatly to coordinate all efforts, especially Messrs. William H. Weathersby, Daniel Oleksiw, Stephen Belcher, and the head of the Film Section, Dr. Blake Cochran, who bore more than his share of the burden.

During November 24-27 the film was shown seven times, and an estimated 700 people saw it and, judging by the enthusiastic comments, were deeply impressed. The shows were launched by a reception in honor of Mr. and Mrs. Garner at the office of the American Research Center in Egypt on November 23, but unfortunately without the guests of honor. Due to a last-minute change in

schedule they did not arrive until the following day so that the first showing, originally planned for the night of November 23, had to be cancelled. Two hundred guests had been invited for this performance, but due to the help of friends of the Center nearly all of them could be notified in advance and their invitations were validated for another evening. Many members of the American colony came to see the film which gave the Director an opportunity to state the aims of the Center in a few words, after each show, before the group which, it is hoped, will become more interested in the Center in the future. Other groups included members of UNESCO, the Department of Antiquities, the Cairo Museum, the foreign Egyptologists, both Egyptian universities, the press and business representatives. The Egyptian ministries of National Guidance, Foreign Affairs and Education were invited as well as the State Administration of Tourism. The latter showed great interest and plans to acquire some of the spare footage of the film.

Professor Ahmen Fakhry invited Mr. and Mrs. Garner for tea at his house west of the Cheops Pyramid, and the next day Mr. Lauer arranged for a visit to the South Tomb of Zoser at Saqqara which is now well illuminated by electric light. In the afternoon of September 27 Mr. and Mrs. Garner boarded an Ethiopian Air Lines plane and flew back to Athens. They, before all others, have to be thanked for presenting the film in Cairo, despite their crowded schedule and the pressure of their work in Greece. On November 17, incidentally, the Athens Symphony Orchestra did the final recording of the new sound track for the music which will accompany the film when it is being released in the 'Ancient World' series of the Archaeological Institute of America with which the Center is affiliated.

FROM THE DIRECTOR'S REPORT DATED DECEMBER 4

Preparations for the visit of Mr. and Mrs. Garner and for the showing of the film kept the staff busy; only Mr. Dimick was able to get out to Giza several times to see the progress made at the boat site. The Egyptian universities opened on November 6; there were no disturbances although soldiers were on hand with steel helmets and long bamboo canes and access to the academic buildings was restricted. As a result, few students were able to register in the beginning and attend classes from the start.

The press reports that the High Dam is assured; it will be built south of Assuan and flood the entire Nubian Valley so that even the colossi of Abu Simbel will entirely submerge. This calls for a complete recording of the existing monuments in the upper Nile Valley and, if possible, for the excavation of the sites which have not been dug yet. To draw up a plan for this gigantic archaeological undertaking, which will take place in the next five years, the Minister of Education has appointed Professor Selim Hassan and Professor Ahmed Fakhry. They will soon leave for Nubia to inspect the area effected by the High Dam.

In the beginning of November the Egyptian press announced the planned excavations of the coming season, and on November 8 the United Press representative in Cairo interviewed Mr. John Dimick with regard to the joint American-Egyptian dig proposed by the University of Pennsylvania. On October 26 Mr. Dimick and Mr. Bothmer had been received by the Ambassador, the Hon. Jefferson Caffery, and they informed him of the plans of the University of Pennsylvania as well as of the aims of the Center.

More streets have been renamed recently, and thus the new address of the French Institute is no. 37, sharia El Sheikh Aly Youssef.

* * *

A JEEP FOR THE CENTER

One of the problems which beset the staff of the Cairo office since it went to work in September, was that of transportation. Within Cairo public transportation is amply available although it is not always easy to board a bus or streetcar during rush hours; the Pyramids can be reached in the same manner or by taxi (\$1.45 one way), but when it comes to reaching other nearby sites such as Saqqara, Dahshour, Abusir or Abu Gurab a taxi or a hired car is very expensive and the lack of a vehicle meant a serious obstacle in obtaining information requested by other scholars.

It was therefore a great event when a young student of the Middle East, who wishes to remain anonymous, presented a jeep in excellent condition to the Center as an outright gift. The vehicle which has been in use for only one year is fitted with a gas tank twice the ordinary size. It has a compass and a radio as well as an eight-day 24-hour clock and many other improvements. Its use will facilitate the work of the staff greatly and will help to be of service to visiting members of the Center and other American scholars.

* * *

VISITORS

The first member of the Center to visit Cairo since the summer was Mr. Ben Grauer of the National Broadcasting Corporation. He and Mrs. Grauer (the former Melanie Kahane of New York) came to Egypt on October 20 for a few days in the course of a whirlwind tour of Europe and the Near East. They went to Luxor, but stayed only for one day since the Director General of the Department of Antiquities had informed them of the impending opening of the Cheops Boat Grave which they did not want to miss. They attended the unsealing as well as resealing of the hole in the boat chamber's roof on October 23; Mr. Grauer recorded his impressions of this event which he considered the highlight of his trip, by tape on the spot for eventual re-broadcasting at home and invited the engineer in charge at the site, Mr. M. Salah Osman, to add a few sentences. The next day Mr. Dimick and Mr. Bothmer took Mr. and Mrs. Grauer to Saqqara and, on the way back to Cairo, stopped at Mitrahine to have a look at the site where the University of Pennsylvania plans to excavate early next year.

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ANNALES DU SERVICE 52 no. 2 (1954) PUBLISHED

The second fascicule of volume 52 of ASAE came out on December 2. Its contents are:

- pp. 202-214 Louis-A. Christophe: À propos de deux épithètes de Ramsès IV (2 illus.)
pp. 215-228 Pierre Lacau: Notes sur les plans d'Edfou et de Kôm-Ombo (1 pl., 6 illus.)
pp. 229-242 Henri Chevrier: Rapport sur les travaux de Karnak 1951-1952 (20 Illus. on 9 pls.)
pp. 253-266 Louis-A. Christophe: Note à propos du rapport de M. Chevrier; Ramsès IV et la 'Salle des Fêtes' de Thoutmosis III à Karnak (6 illus. on 4 pls.)

- pp. 271-274 Zaky Iskander: Desert Varnish and Mortar of the Rhomboidal Pyramid at Dahshur
- pp. 275-307 Alexandre Badawy: La loi de la frontalité dans la statuaire égyptienne (52 illus.)
- pp. 309-313 Henri Chevrier: Note sur l'érection des obélisques (3 illus.)
- pp. 315-442 Günther Roeder: Zwei hieroglyphische Inschriften aus Hermopolis (Ober-Ägypten) (4 illus., 13 pls.)
- pp. 443-562 Labib Habachi: Khatâ'na-Qantir; Importance (59 illus. on 38 pls.)
- pp. 563-594 Ahmed Fakhry: The Excavation of Snefru's Monuments at Dahshur; Second Preliminary Report (7 illus.; 47 illus. on 26 pls.)
- pp. 595-602 Hassan Mustapha: The Surveying of the Bent Pyramid at Dahshur (4 illus.; 8 illus. on 6 pls.)
- pp. 603-623 Herbert Ricke: Baugeschichtlicher Vorbericht über die Kultanlagen der südlichen Pyramide des Snofru in Dachschr (6 illus.; 13 illus. on 6 pls.)
- pp. 625-652 Fernand Debono: La nécropole prédynastique d'Héliopolis; Fouilles de 1950 (21 illus. on 10 pls.)
- pp. 653-678 Book reviews:
Penelope Fox, Tutankhamun's Treasure (E. Drioton).
Internationale Zeitschrift für Bibelwissenschaft und Grenzgebiete, Heft I, 1951-52 (L.-A. Christophe).
George R. Hughes, Saite Demotic Land Leases (L.-A. Christophe).
J.B. Pritchard (ed.), Ancient Near Eastern Texts (F. Daumas)

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THE CAIRO OFFICE

The address of the Cairo office is: Flat 32, Isis Building, sharia el Walda, Garden City, Cairo. Telephone 27076.

INVITATION TO NEW MEMBERS

The American Research Center in Egypt, incorporated in 1950, seeks to maintain a permanent headquarters in Cairo under the charge of a resident Director to whom visiting scholars may turn for help and advice in the different fields of Egyptian and Near Eastern studies. Furthermore the Center provides an effective and important means of establishing on the cultural level mutual confidence and cooperation between Egypt and America.

At Athens and in Rome, in Jerusalem and Baghdad, American centers of research have long since made outstanding contributions to scholarship and have fostered a common good will and understanding. Members and friends of the Center who recognize the need and the importance of establishing it on a permanent basis in Cairo can be of great help by doing all in their power to increase its membership.

For additional information apply to the Executive Secretary, 479 Huntington Avenue, Boston 15, Massachusetts.

There are six classes of membership:

Regular Member	\$5	Associate of the Center	\$50
Contributing Member	\$10	Fellow of the Center	\$100
Sustaining Member	\$25	Life Member	\$500

Ashton Sanborn
Acting Executive Secretary
147 Brattle Street
Cambridge 38, Massachusetts

POSTSCRIPT

As reported in The New York TIMES on Sunday, December 12, further investigation of the boat grave of Cheops has revealed a shallow solar barque underneath the mass of planks and timbers observed by the Director of the Center on December 3, when he was invited to inspect the grave. More information may be expected from Mr. Bothmer as the work of clearing the boat grave progresses.

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