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Published approximately every six weeks by THE UNIVERSITY ARCHAEOLOGICAL SOCIETY at Brigham Young University, Provo, Utah. The purpose of the Newsletter is to disseminate non-technical but reliable information on the results of recent archaeological research, especially discoveries bearing upon the Latter-day Saint scriptures; also knowledge of the archaeological activities and viewpoints of the Society and its members. Subscription by membership in the Society: three dollars per year; or Life Membership, fifty dollars. (Membership also includes subscription to other publications of the Society and of the BYU Department of Archaeology.)

83.0 SYMPOSIUM DATE ANNOUNCED. Dr. Welby W. Ricks, recently-elected president of the UAS, has announced the date for the Fourteenth Annual Symposium on the Archaeology of the Scriptures (Newsletter 82.0, 82.22).

The annual affair, which is sponsored jointly by the UAS and the BYU Department of Archaeology, will be held on the campus, Saturday, April 13, 1963, in Room 428 of the Clark Library. All Society members are urged to attend the day-long event. Members will be admitted free of charge, as in the past, while a nominal admission fee will be charged non-members.

President Ricks has also invited all interested members to prepare papers for the Symposium. Those who do so should submit a one- or two-page abstract to him on or before March 1. The Symposium committee under his direction will then select the papers to be read and will organize the Symposium program.

83.1 SURVEY OF MEXICAN SITES. Dr. Ross T. Christensen, chairman of the BYU Department of Archaeology, returned to the campus recently after completing eight weeks of field research in southern Mexico (Newsletter, 81.0). He has prepared the following report for the Newsletter:

83.10 Assignment. The field work was done during a leave of absence from my departmental duties at BYU and under the direction of the BYU New World Archaeological Foundation. The Foundation is an agency which was attached to the University in January, 1961, for the purpose of conducting a continuing program of field research in Mesoamerica (Newsletter, 75.1). My assignment was to survey recent and current archaeological field work in southern Mexico, especially that which has been financed by BYU funds. It was hoped that this effort would result in information which would be useful in planning future field work.

On February 28, I left Utah accompanied by

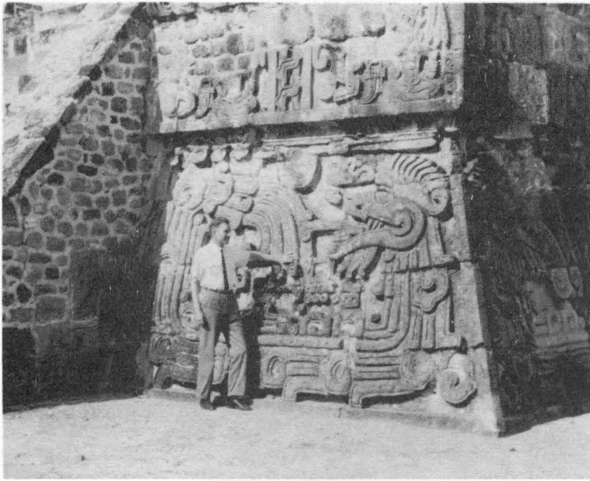
Joseph T. Bentley, Foundation treasurer (Newsletter, 79.2). After spending only a short time in Mexico to help organize the project, Mr. Bentley returned to the campus, while I continued another eight weeks until my return on April 26. My work was done in close association with Gareth W. Lowe, Foundation field director and former graduate assistant in the BYU archaeology department, and Bruce W. Warren, staff archaeologist and UAS general officer.

83.11 Sites Visited. Among the sites which have recently been excavated by the Foundation, Izapa (see below, 83.12), Chiapa de Corzo, and El Mirador were studied. Aguacatal and other ruins in the Xicalango district of western Campeche, investigated by BYU expeditions in 1948, 1956, 1958, and 1961 (Newsletter, 22.02, 34.00, 44.03, 48.075.0; UAS Bulletin, No. 3), were visited again.

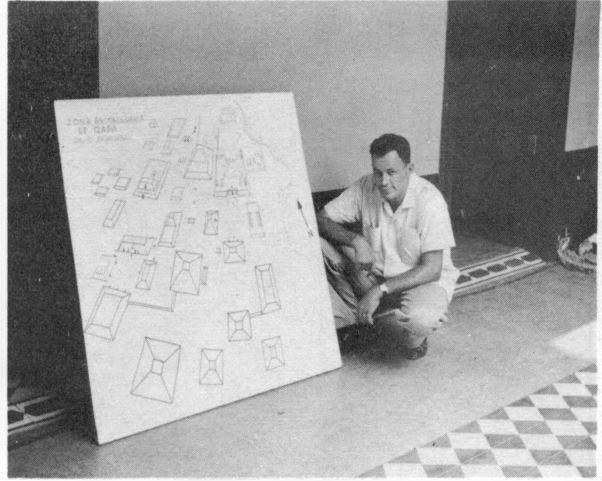
The San Lorenzo-Tenochtitlan zone, the ruins of which Stirling calls the Rio Chiquito sites, was also on the itinerary. Located on the Isthmus of Tehuantepec not far from La Venta, the site once contained a number of enormous stone heads carved in the La Venta style (Newsletter, 69.30). One of them, measuring about eight feet in height, was still in its place at San Lorenzo during the 1962 visit. Ceramic evidence was also discovered which apparently dates an early occupation of the site to 1500 BC or before. After a lapse of several centuries, a Classic Period occupation dated to around 500-800 AD. The latter people were evidently offended by the earlier sculptures and rolled them into ravines.

The field party visited Dzibilchaltun, near Mérida, Yucatan, a ruin covering 20 square miles of territory and believed to have been occupied without interruption from perhaps 1000 BC until the coming of the Spanish conquerors. Dzibilchaltun is currently being excavated by Tulane University in collaboration with the National Geographic Society, under the direction of Dr. Willys Andrews.

Dr. Richard S. MacNeish of the Robert S. Peabody Foundation is conducting excavations in the Tehuacan



Dr. Christensen examines serpent motif at the ruins of Xochicalco.



Field director Gareth W. Lowe displays map of ruins of Izapa.



Dr. Christensen's excavation at Mound 30d, Izapa.



Stela 22, Izapa. Excavators left undisturbed the log placed under the stone by thieves.



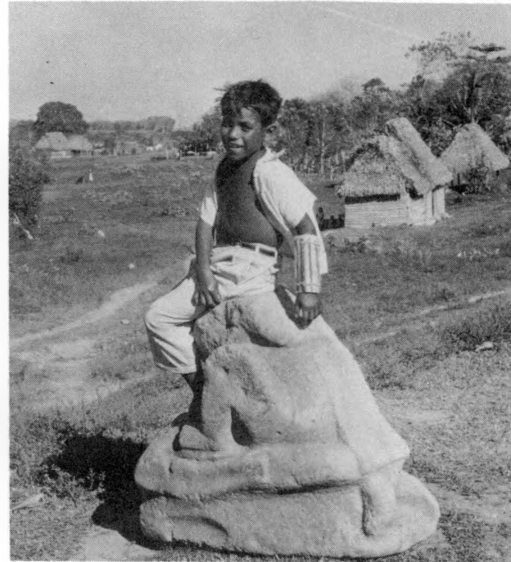
Extraordinary pottery removed from Mound 30d on April 13.



"Stuccoed" vessel in six colors removed from Mound 30d, Izapa.



Trench E-3-1 at Aguacatal revisited a year later (see Newsletter, 75.0, for 1961 excavation).



Modern boy poses with ancient sculpture at San Lorenzo-Tenochtitlan.



Dr. Christensen examines Izapa Stela 5 at close range.



Close-up of Stela 5, Izapa, lower left-hand corner.

Valley, Puebla, which are throwing a great deal of light on the origin of corn and on the primitive cultures which existed in Mesoamerica before the rise of the great agricultural civilizations. Frederick Peterson, assistant field director of the Tehuacan project and former field director of the New World Archaeological Foundation, and Dr. Melvin L. Fowler, a Southern Illinois University archaeologist and longtime member of the UAS, were in the field with Dr. MacNeish at the time of our visit.

Tula and Xochicalco, Post-Classic ruins in central Mexico which are popular among tourists, were also studied before my return to the Provo campus.

83.12 Week at Izapa. The ruins of Izapa, located near Tapachula in the extreme southern tip of Mexico, were the site of field explorations by Matthew W. Stirling of the Smithsonian Institution in 1941. Remarkable among the sculptures of Izapa

was Stela No. 5, which Dr. M. Wells Jakeman, BYU archaeologist, interpreted as a portrayal in stone of Lehi's vision of the Tree of Life as recorded in I Nephi 8 (UAS Special Publications, No. 2).

Since November, 1961, the BYU New World Archaeological Foundation has conducted important excavations at the ruins of Izapa under the direction of Mr. Lowe. A number of additional stelae have been unearthed, as also some extraordinary specimens of pottery.

Between April 9 and 14, I studied at Izapa, observing the excavations that had been completed and were going on, excavating a portion of Mound 30d myself with an eight-man crew provided me by Mr. Lowe, and photographing several of the stelae, particularly the Tree of Life Stone, Stela 5.

Stela 5 was probably carved somewhere around the time of Christ and has evidently lain exposed to

the elements ever since. Consequently, some details of this complex tableau have become very dim. It was fortunate, therefore, that the sun shone at such an angle when I took my color transparencies as to bring many of the details out in sharp relief. I took a series of 19 close-up views, most of them from a distance of three or four feet, and came away with the impression that Dr. Jakeman's drawing-reproduction of the stone was remarkably faithful, although certain minor details will need to be corrected as a result of the photographs.

83.13 Stolen Stelae. Several of the 30 some-odd carved stone monuments of the ruins of Izapa, including Stela 5, had been stolen and were later found by the police in a warehouse at Tapachula in August, 1960, according to a report that came to the BYU Department of Archaeology. Additional facts came to light during my visit of last April.

It is not true that Stela 5 was among those stolen. As nearly as I could determine, it lay in exactly the same spot and same position last April as it had done during my visit of January, 1958 (Newsletter, 47.02): on its back, tilted sidewise into a depression evidently made by some unknown previous digger.

On the other hand, it is true that three or four other stelae were stolen in 1960 by profiteers. Two or three of them are reported still in Tapachula where they were trucked by the thieves, while one of them, Stela 22 (Fig. 5), lies exactly where it was when the culprits were caught by the police in the act of loading it on their truck.

83.14 Local Museum. Beginning in 1954 the UAS made a prolonged effort to have Stela 5 removed to the National Museum of Archaeology at Mexico City, there to be protected from further damage and to be available for student and tourist inspection (Newsletter, 28.7). Although arrangements were made with the Department of Prehispanic Monuments of the Mexican government and the funds supplied by the Society for its removal, the task was never completed. This was due to opposition and threats on the part of local citizens (Newsletter, 33.00). For this reason the first assignment of the 1958 BYU expedition was to obtain a latex (liquid rubber) mold of the stone as a substitute measure. The cast made from the mold is now on exhibit on the first floor of the Karl G. Maeser Memorial Building on the BYU campus (Newsletter, 80.0).

At least twice, a temporary shelter has been built over Stela 5: in 1955 by UAS members Dr. Milton R. Hunter, Otto Done, and José Dávila (Newsletter, 26.0); and in January, 1956, by Mexican government archaeologist Armando Duvalier, who had been sent to remove it to the National Museum.

It was evidently Dr. Hunter's small shelter that had been burned over the stone and had left the discoloration over much of its surface which my expedition observed in 1958. On the latter occasion the group was also startled to see a serpent lightly scratched onto the stone by some recent idler, all traces of which have now fortunately disappeared, however.

Last April, we were again startled to see the stone defaced: The marks of someone sharpening his machete could be clearly seen across the branches of the Tree.

The project of removing the Lehi Stone to Mexico City will evidently have to be abandoned. The suggestion has been made, however, that a local museum be constructed to house Stela 5 and other important antiquities found at Izapa.

83.2 CALIFORNIA GROUP MANUFACTURES MINIATURE OF LEHI STONE. A California ward of the Church of Jesus Christ of Latter-day Saints is producing one-tenth-size replicas of the Lehi Tree-of-Life Stone as a Welfare project.

"El Monte Charitable Enterprises" is the name of a company which has undertaken the manufacture of the miniatures on a commercial basis. UAS members George Cline, chairman of the Enterprises, and Harold Eckstein, professional artist and first counselor in the El Monte Ward bishopric, have been outstanding in promoting the project. Bishop James E. Hoyal is in charge. The replica is ten inches tall and is made either to stand on a desk or mantle or to hang on a wall. "It is cast in durable hydrocal, reinforced with steel wire," according to the manufacturers. "Each stone is then hand colored to bring out the details..." They consider the model to be a "conversation piece."

The replicas are on sale at \$5.00 each. Each order is accompanied by a descriptive booklet written by Dr. M. Wells Jakeman, professor of archaeology at BYU. Proceeds from sales go to the El Monte Ward Welfare fund. Orders should be sent directly to: El Monte Charitable Enterprises, Box 3844-A, So. El Monte, California. California residents should add 4% as sales tax. In addition the following should be added for packaging and postage: California, \$.50; west of the Mississippi, \$.75; east of the Mississippi, \$1.00. Orders should NOT be sent to the UAS.

Stela No. 5, found at the ruins of Izapa in southernmost Mexico in 1941, has been identified by Dr. Jakeman and others as a representation in stone of Lehi's vision of the Tree of Life, as recorded in the Book of Mormon, I Nephi 8 (see especially UAS

Bulletin, No. 4, and Special Publications, No. 2).



Photo of miniature Lehi Stone with familiar objects to indicate scale.

83.3 SUMMER ACTIVITIES. This past summer the ceramic laboratory of the BYU Department of Archaeology has been a scene of high activity. Ray T. Matheny and Lawrence O. Anderson, participants in the 1961 expedition to Aguacatal, western Campeche, Mexico (Newsletter, 75.0), were commissioned by the BYU New World Archaeological Foundation to complete studies on the artifacts obtained during field explorations. Work began with "Operation Scrub" during the summer of 1960 (Newsletter, 76.0). Phase 2 of the project, separating and typing the artifacts, continued throughout the year and was supported by graduate and undergraduate assistantships.

This past summer's activities involved a thorough study of archaeological literature concerning the Tabasco and Campeche coasts. In this part of the operation specific types of pottery were compared with the BYU collection. Much of the collection was identified in this manner but there remains a large amount of pottery that is unique to Aguacatal and will have to be given local names.

As part of the comparative studies Matheny and Anderson visited the museum facilities and laboratory for ceramic processing located at Chiapa de Corzo.

There they examined the pottery collection from the excavations at Chiapa de Corzo and were furnished much valuable information by the staff of the laboratory. Sixty-six colored slides were taken of vessels which had parallels in the pottery collection recovered from Aguacatal. Forty black and white photographs were taken of the different groups of wares. A brief comparative study was made of all 4,000 whole vessels and such things as paste type, vessel shape, slip and surface color, and time sequence were noted. Many valuable ideas were contributed by the staff of the laboratory.

Bruce Warren, Ray Matheny, and Lawrence Anderson also visited the ceramic collections at the home of Frans Blom located in the town of San Cristobal de las Casas. Many excellently preserved fine orange vessels were examined and photographed. Some of these vessels have not been previously described in the literature for this area.

After comparative work, a select group of pottery fragments were cross-sectioned with a diamond-blade saw, then polished on a lapidary wheel and stamped with ink on an identification card. The stamping gives the researchers a profile to compare and study. From the same select group of pottery, thin sections were made using standard petrographic preparation procedures. These thin sections, about .03mm in thickness, will be studied under the petrographic microscope to determine minerals in the clay from which the pottery was made and, possibly, identify the potter's inclusions. This study is necessary to help determine the geographic source of wares.

Information about each piece of pottery processed was transferred from the identification cards to IBM cards which were run through the BYU-owned electronic computer. The machine was able to store the vast accumulation of traits recorded on the cards. Here, statistical data were instantly recalled and converted into percentages and means. This process saved countless man-hours in calculating accumulative data.

Significant among our sherds thus far processed, is a collection of Fine Orange ware. The fine oranges are divided into types which are called: Balancan or Z, Silho or X, Matillas or V, Cunduacan or U, and an unidentified type given the temporary name W Fine Orange. These types of fine orange, except the W, have been found in distinct occupation layers at Aguacatal which now can be assigned tentative dates.

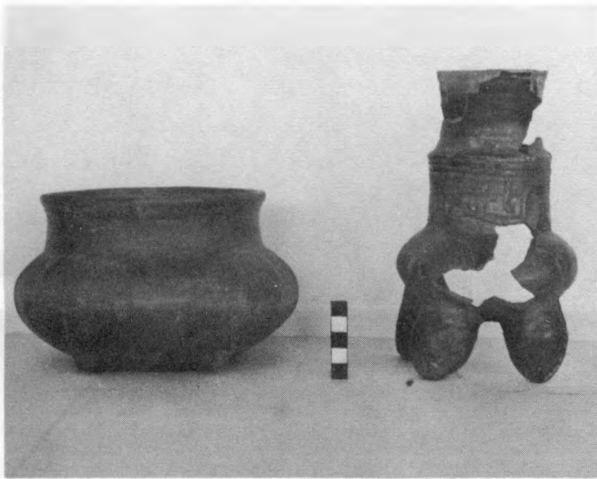
Work on the project will continue throughout the year and is scheduled to be completed by the end of summer, 1963.



Ray Matheny (Foreground), Bruce Warren, & Betty Agrinier in the BYU-NWAF Chiapas Lab.



Shelves of whole vessels from Chiapa de Corzo Collection contains over 4000 whole vessels.



Plumbate Jar, phase 11, Ch. de Cor., C. 1100 AD
Left, Usulután bowl, phase IV, c. 450 BC.



Figurine, approx. 25 cm. high from phase 6
(Horcones, Chiapa de Corzo c. 100 BC).



View of mound 1 looking west; photo taken from top of mound 5, Chiapa de Corzo.



Ray Matheny & Bruce Warren (right) Studying at Frans Blom's house in San Cristobal.

83.4 COMPUTERS SOLVE MAYA WRITINGS. The following article is taken from the New York Times, April 15, 1962: "Soviet Mathematicians Use Devices For Translation," by Lawrence O'Kane, United Nations, N. Y.

April 14 - Three Soviet mathematicians have deciphered the hieroglyphics of the Mayan Indians of Central America, the United Nations Educational, Scientific and Cultural Organization reported this week.

The solving of one of the world's most tantalizing archaeological puzzles was accomplished by the techniques of computer analysis, the report said.

Complete translations of two of the three existing Mayan manuscripts were made by members of the Novosibirsk Institute of Mathematics, UNESCO said. A description of their work appeared in the UNESCO Courier.

The manuscripts, which are owned by museums in Madrid and Dresden, are priestly almanacs containing auguries keyed to the dates of a sacred ceremonial year of 260 days.

For each day of the year the manuscripts offer a description of the activities of the gods. Presumably, according to the writer, Felix Shirokov of the Moscow Power Institute, the Mayas were to follow the recommendations of the books and plant trees, fire pottery and the like at propitious times.

83.40 Original Writing System. The two manuscripts of pounded fig-tree bark joined with gum, a third in Paris, and a number of inscriptions on stone, are the only known examples of Mayan writing. The Mayas, who established a high order of civilization in the years before Columbus discovered America, are considered to have developed the only original system of writing of any of the aboriginal inhabitants of the Western Hemisphere.

For the last 100 years scholars have labored at translations of the manuscripts. As a result of their efforts the meanings of about half the 400 hieroglyphics they contain are known.

The UNESCO article reported that the three mathematicians, E. V. Yevreinov, Y. G. Kossarev and V. A. Ustinov, had based their efforts on the conclusions of a Leningrad philologist. This scholar, Yuri V. Knorozov, offered the theory in 1952 that Mayan hieroglyphic symbols might represent a sound, a syllable or a whole concept.

In developing his theory, Mr. Knorozov applied to Maya general principles he found in other hieroglyphic systems, such as the Chinese and Egyptian.

Whereas knowledge about the Mayan system of writing is limited, considerably more is known about the language itself. These sources include two

Maya-Spanish dictionaries and a number of chronicles of Mayan life, the Books of Chilam Balam, written in Maya by Mayan scribes after the Spanish conquest. Mayan words are given in Spanish spellings.

The problem facing the scholars, the UNESCO article explained, was one of correlating the unknown hieroglyphs with the elements of the language found in the Spanish sources.

But making all possible substitutions in all possible combinations until a readable text developed -- without electronic help -- was a process that could take eons, the article said. The computer was used for forty hours, including programming.

83.41 Glossaries Developed. The Soviet scholars first arranged all Mayan words in sequences that would enable any one to be found from any of its letters.

One dictionary containing 10,000 words, the Chilam Balam texts containing 60,000, and the known symbols for calendar dates were codified.

Maya-Russian glossaries of specific subjects such as animals or crafts were developed to help search for words.

Drawings in the two manuscripts were broken down into their elements and codified, as were the hieroglyphic characters.

The material was then recorded on perforated cards and magnetic drums and processed.

One of the simpler of cryptographic techniques is that based on frequency of appearance. Simple cryptograms in English can be solved if it is known that e is the most common letter in the language, followed by o, i, d, h, n.

It was this method that the Novosibirsk mathematicians used, according to UNESCO. They found the frequency of letter combinations in the Maya language as disclosed in the Chilam Balam books and then the frequency of occurrence of hieroglyphs in the two manuscripts. After that the problem was one of correlating the frequencies.

83.42 Samples of Translations. But here, the magazine reported, difficulties developed because the hieroglyphic manuscripts and books were written in different periods and deal with different subjects. The scholars modified their original hypothesis and began comparing groups of hieroglyphs and groups of letter pairs.

Thus, step by step, identifying and comparing, and using the computer to analyze the glossaries and calculate frequencies, UNESCO said, the mathematicians deciphered the manuscripts. Parts of the translation went like this:

"The young maize-god fires pottery from white clay."
and again:

"The god of death, the destroyer, fires a pot."
The legend of one drawing cited this observation:
"The woman's burden is the of war."

The Mayas, who inhabited the Yucatan peninsula and much of Guatemala and western Honduras, were an agricultural people whose political organization was based on the city-state.

Compared to other Indians, the Mayas were the undisputed masters of the abstract. Their writing recorded not deeds of glory, but chronology, astronomy and religion. They learned to manufacture paper and books. Mayan history has been divided into three epochs: Pre-Maya (from about 2500 B.C. to 317 A.D.), Old Empire (317-987), and New Empire (987-1697).

Nothing is known of the early period. During the third phase of the Old Empire (731-987) the genius of the Mayas found its highest expression in the cities of Copan, Quirigua, Palenque, and Piedras Negras. Within a century the cities were abandoned, some think because of soil depletion. The Mayas migrated and in time other cities, Chichen Itza, Mayapan, Uxmal and Mani were built.

The New Empire centered in Yucatan. At the end came a period of struggle among the city-states of the north and wars with the Toltecs and Aztecs that lasted until the Spanish conquest in the sixteenth century.

83.43 Expert Reserves Judgement. Dr. Linton Satterthwaite, professor of Archaeology at the University of Pennsylvania and an expert on Mayan Culture, said that it was impossible to pass judgement on the work of the Soviet mathematicians until their computer programs had been studied.

"If they have completely translated the manuscripts, as is claimed," he said, "it is a very great contribution."

Dr. Satterthwaite said that, if proved accurate, the translations could provide the information needed for understanding as-yet-undeciphered stone hieroglyphs from Maya ruins.

83.5 LATE PRE-CHRISTIAN ARCHAEOLOGY. The Last Thousand Years Before Christ, by G. Ernest Wright, paintings by H. J. Soulen and Peter V. Bianchi, National Geographic Magazine, Vol. 118 (December, 1960), pp. 813-853. Reviewed by Clark S. Knowlton.

This is the second article on the ancient history of Palestine and the Middle East to appear in the National Geographic. The first article, published in the December, 1957, issue covered the one-thousand-year period from the time of the patriarchs

down to the reign of King Solomon. The current article picks up the thread of the narrative toward the end of the life of King Solomon and carries it down for another thousand-year period to just before the birth of the Savior. Major emphasis is given to the Israelites, Jews, Babylonians, Assyrians, and Persians. The Greeks, Romans, and the smaller nations, tribes, and city-states are virtually ignored.

The author, utilizing materials from the Bible and from archaeology, weaves his historical narrative around the lives of the major monarchs and prophets. These are used as historical benchmarks. Interwoven into this fabric, in a fragmentary manner, is material on the lives of the common people, the doings of the upper classes, the movement of caravans and ships, and the ebb and flow of empires.

The article is illustrated by thirteen original paintings that are alone well worth the price of the issue. They vividly portray the everyday life of the period with its triumphs and tragedies. They also illustrate the important work that archaeologists have done in the Middle East in restoring to history the majority of the cities, nations, and peoples mentioned in the Bible that were gradually obscured by the dust of the past.

83.6 MASTER'S DEGREE AWARDED. Ray T. Matheny was awarded the Master of Arts degree in archaeology at the August 24 commencement of BYU.

The title of Mr. Matheny's 141-page thesis is, "An Archaeological Survey of Upper Montezuma Canyon, San Juan County, Utah." It embodies field work done in southeastern Utah during 1960 and 1961 under a permit from the US Department of Interior (Newsletter, 77.0).

Mr. Matheny received the baccalaureate degree in archaeology at BYU in 1960 (Newsletter, 69.4). During his undergraduate years he served as secretary, vice-president, president, and honorary president of the UAS Campus Chapter (Newsletter, 54.20, 57.50, 62.40, 66.4). As a graduate student he served as a teaching assistant and as a research assistant in charge of processing the specimens from Aguacatal (Newsletter, 76.0, 83.3). He was a member of the 1961 BYU expedition to Aguacatal (Newsletter, 75.0).

Mr. Matheny was the editor of the UAS Newsletter, Nos. 77 and 78, after serving as assistant editor to Dee F. Green for seven issues.

Archaeologist Matheny's wife, Patricia, received the Master's degree together with her husband, but in the field of education. The couple had also received their bachelor's degrees together (Newsletter, 69.4).