

SMITHSONIAN MISCELLANEOUS COLLECTIONS  
VOLUME 104, NUMBER 2

# CROSS SECTIONS OF NEW WORLD PREHISTORY

A BRIEF REPORT ON THE WORK OF THE  
INSTITUTE OF ANDEAN RESEARCH, 1941-1942

(WITH 33 PLATES)

BY  
WM. DUNCAN STRONG  
Professor of Anthropology, Columbia University



(PUBLICATION 3739)

CITY OF WASHINGTON  
PUBLISHED BY THE SMITHSONIAN INSTITUTION  
DECEMBER 21, 1943



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PLATE I

Upper: Shore line eastward of Taltal, on the northern coast of Chile, seen from 1,800 feet elevation. Excavation in shell heaps along this coast revealed two early pre-agricultural occupations prior to the coming of native farmers and metal workers.

Lower: Expedition camp near Midden I, Taltal.



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## SCIENTIFIC AND HISTORIC BACKGROUND

Since the first contact between the white invaders and the aboriginal inhabitants of the western continents there has been a profound interest in the Indians of the Americas. Speculation as to the age and origin of the native American civilizations, the nature and extent of their achievements, and their complex interrelations within and without the Western Hemisphere, has persisted to the present. Today, however, highly evolved excavation techniques, combined with exhaustive and exact historical research, have almost entirely replaced the armchair brooding or treasure hunting of the past. From this painstakingly developed scientific approach there has resulted a new kind of international history that is intercontinental in its scope.

The most brilliant and advanced pre-Columbian civilizations of the New World were all located in what is now known as Latin America, though these civilizations were closely linked with less spectacular but equally important and, in some cases, earlier cultures in the regions now occupied by the United States and Canada. The many problems concerning the rise and fall, as well as the later renaissance, of native American civilization are therefore common to this whole vast area. It seemed very timely, as well as scientifically essential, that any program aimed at extending and enriching the intellectual and cultural heritage shared by all the commonwealths of North, Central, and South America should consider this rich field of cooperative effort.

The strengthening of cultural relations between the western nations, some of whom are separated by great distances, requires promotional activity, but it also needs the less ephemeral contribution of solid achievement. The international reputation of a single scientist or of one significant monograph may affect certain influential circles in

other nations far more positively than pages of publicity or hours of entertainment. It seemed certain, therefore, that the revelation of new and rich chapters of a buried history directly shared by all the American nations would likewise arouse widespread and sincere interest.

Thus, the archeological program of the Institute of Andean Research, supported by the Art Committee of the Coordinator of Inter-American Affairs during the year 1941-1942, was from the beginning a successful essay in cultural and intellectual cooperation, although its immediate publicity values may have been inferior to many other contemporary endeavors. Indeed, since archeological science has often suffered more than it has gained through the publicity values innate in the subject, every effort was made to avoid sensationalism and to concentrate on the scientific and historic aspects of a vast and important problem. As a result, this brief program stands out as a conspicuous accomplishment in the field of scholarship. A large number of field studies were completed, their results are either published or in process of publication, and the widest activity in a single year in the history of Latin American archeological research was attained. There follows an extremely brief account of the organization and execution of this program with a synoptic and pictorial presentation of certain of the major results attained.

#### THE NATURE AND ORGANIZATION OF THE INSTITUTE OF ANDEAN RESEARCH

In the year 1936 Dr. Julio C. Tello, of the Universidad Mayor de San Marcos, made an extensive tour of the universities and anthropological institutions of the United States. At every opportunity Dr. Tello discussed with his colleagues the necessity for coordinated work in the Andean region. As a result a group of interested scholars organized the Institute of Andean Research in order to promote and coordinate anthropological investigations in the Andean area and in related regions. The Institute became a non-profit-making corporation under the laws of New York in February 1937. Although the membership has been expanded somewhat beyond the original group of incorporators, no attempt has been made to solicit membership on a large scale. The officers are rotating, and the group operates as a body. It is the aim of the Institute to encourage work in the Andean region in all branches of anthropology, including archeology, ethnology, physical anthropology, linguistics, and community studies.

In 1937 the Institute of Andean Research received two fellowship grants, one from Mrs. Truxtun Beale and one from the Honorable

Robert Woods Bliss. One fellowship was assigned to Miss Isabel Guernsey, of the Peabody Museum of Cambridge, for a technical study of textiles in the Lima museums. The other was granted to Donald Collier, of the University of Chicago, who assisted Dr. Tello in his archeological excavations in Casma valley, Peru. The Institute was able to assist Dr. Tello in these important excavations in other ways. J. Deering Danielson and Edward McC. Blair were named as field associates to work in the Casma excavations. In the same year several honorary fellows were named by the Institute. One fellow, Dr. Alfred Kidder, II, of the Peabody Museum of Cambridge, made a field survey of Peruvian archeology. A second, Dr. Willard Z. Park, of Northwestern University, initiated ethnological work among the Kagaba Indians of Colombia.

In 1938 Dr. W. C. Bennett, then of the American Museum of Natural History, excavated in the northern highlands of Peru, sponsored in part by the Institute. The director of the Huaraz Museum in Peru, Dr. A. Soriano Infante, was given a grant-in-aid for a survey of the archeological remains in this same area.

In 1939 Dr. Alfred Kidder, II, was again named an honorary fellow for his archeological excavations in Pucara in southern Peru. Dr. Alfred Métraux, then of the Bishop Museum, received similar recognition for his study of Chaco ethnology. Dr. J. Franco Inojosa, of the Cuzco Museum in Peru, was given a grant-in-aid for a survey of the archeological remains in the Puno district of Peru. Dr. S. K. Lothrop, of the Peabody Museum of Cambridge, represented the Institute of Andean Research at the International Congress of Americanists meeting held in Lima in 1939.

In 1940 Dr. Wm. Duncan Strong, of Columbia University, made an extensive field survey of Peru as a basis for a future intensive archeological program. Dr. Harry Tschopik, of Harvard University, was named an honorary fellow for the duration of his extensive study of Aymara and Quechua ethnology in the southern highlands of Peru. His wife, Marion Hutchinson Tschopik, was given a grant-in-aid for archeological survey work in the same area.

In 1941 Dr. Willard Z. Park was renamed honorary fellow for continued ethnological work in Colombia. The Institute of Andean Research likewise initiated the large archeological program described herein.

The current work of the Institute of Andean Research is essentially that of completing the publication of the results of the 1941-1942 program and in laying plans for renewed activities in the area, in all branches of anthropology, when conditions are again favorable.



## INSTITUTE OF ANDEAN RESEARCH MEMBERSHIP

- Dr. Alfred V. Kidder, Chairman of the Division of Historical Research, Carnegie Institution of Washington.
- Dr. Alfred L. Kroeber, Professor of Anthropology, University of California.
- Dr. Alfred M. Tozzer, Professor of Anthropology, Harvard University.
- Dr. Julio C. Tello, Professor of Anthropology, Universidad Mayor de San Marcos.
- Dr. Fay-Cooper Cole, Professor of Anthropology, University of Chicago.
- Mr. Philip A. Means, Pomfret, Connecticut.
- Dr. S. K. Lothrop, Peabody Museum, Harvard University.
- Dr. Leslie Spier, Professor of Anthropology, University of New Mexico.
- Dr. George C. Vaillant, Director of the University Museum, Philadelphia.
- Dr. Wm. Duncan Strong, Professor of Anthropology, Columbia University.
- Dr. Wendell C. Bennett, Associate Professor of Anthropology, Yale University.
- Dr. Alfred Kidder, II, Peabody Museum, Harvard University.
- Dr. Gordon Ekholm, Assistant Curator of Anthropology, American Museum of Natural History, New York.

THE ORGANIZATION AND PERSONNEL OF THE 1941-1942  
PROGRAM

It is comparatively easy to set up an archeological project or series of projects if there are no time limitations. To arrange for the completion of a large program, including all arrangements for publication, within a budget year was far more complex, particularly when the looming war clouds gave every indication that there would be no immediate continuation of the program beyond the specified period. However, the aforementioned cultural and scientific objectives being so obviously in line with the policies of the United States and the other American republics, such a plan was put forward by the Institute of Andean Research through the Art Committee of the Coordinator of Inter-American Affairs and funds were made available through that office. The flexible and representative nature of the Institute of Andean Research made rapid scientific action possible. Moreover, owing to its representative nature, the Institute was graciously permitted to carry on certain parts of numerous programs already developed by the Carnegie Institution, the American Museum of Natural History, the Field Museum; a number of universities, including California, Columbia, Harvard, and Yale; and many institutions in the various countries where the work was prosecuted. This was supplemented by the American Museum of Natural History which kindly consented to run the bookkeeping and borrow the original funds against repayment by the Coordinator's Office, a service which the Institute was not equipped to perform.

The entire project envisaged 11 field expeditions, 10 of which were to be for a year's duration. A member of the Institute was to serve without pay as director of each expedition or regional research project. In the majority of cases this individual was to spend the summer season in the field selecting promising sites, arranging the details of permits, and generally initiating the work, returning to the United States in the autumn since the professional obligations of the directorate did not permit them to spend more time away from their regular duties. Under each director was a supervisor, a qualified young archeologist of doctoral, or predoctoral, rank, who, guided by the director during the first 3-month period, was to continue the excavations and later collaborate with the director in preparing a proper report. The supervisors were often accompanied by their wives, who, although receiving neither pay nor traveling expenses, were more than qualified to assist their husbands. Other necessary assistants, particularly Latin Americans, were to be employed when available. In all cases close cooperation with local scientists was attained. A very desirable feature of this program was the opportunity thus afforded young archeologists to enter the Latin American field, greatly broadening the present and future base of such research personnel. These younger students made numerous personal friends and formed scientific attachments that after the war is won will assist in continuing the policy of close collaboration that has characterized the careers of the older students in the field. The inclusion of young Latin Americans in this program provided for field training in the highly developed North American techniques, for the reciprocal acquisition of local methods and knowledge, and for general cooperation and mutual understanding.

The countries selected for research included many of those which had Indian populations prominent in the development of Indian culture, but which, unlike Guatemala and southern Mexico, were not already being extensively worked. Mexico had two projects assigned because of the importance of its Indian history. Because of its midway position between South America and Mexico, El Salvador was the scene of another project. Venezuela and Cuba embraced another unit, significant for the cultural diffusion and migrations that have taken place over the insular route between the northern and southern continents. Two important projects investigated sites in highland Colombia and Ecuador, the homes of Indian peoples who were apparently intermediaries between the great empires of the Andes and the civilizations of Middle America. Peru was the locale of four expeditions. This notable center of New World civilization, one of the greatest archeo-

logical regions in the world, has never received the amount of study it deserves. One project covered the northern coast of Chile, a country which has been little studied by archeologists.

The funds appropriated and the experienced and trained personnel available were insufficient to cover the remainder of the Western Hemisphere. Thus the archeological resources of several equally significant countries could not be investigated at this time.

In every case, in all the countries investigated, the greatest effort was made to select lesser-known regions and to examine sites or portions of sites promising immediate stratigraphic or historical results rather than attempting to excavate large and spectacular ruins that would require years of work for complete or even significant excavation. The various projects and the personnel of the Institute of Andean Research program of 1941-1942 were as follows:

PERSONNEL OF THE INSTITUTE OF ANDEAN RESEARCH ARCHEOLOGICAL  
PROJECTS, 1941-1942

SURVEY

Project 0. Dr. and Mrs. George C. Vaillant.

EASTERN MEXICO

Project 1. Dr. George C. Vaillant (director).  
Dr. Gordon F. Ekholm (supervisor).  
Mrs. Gordon F. Ekholm.  
Sr. Wilfrido Du Solier.

WESTERN MEXICO

Project 2. Dr. A. L. Kroeber (director, not in field).  
Dr. Isabel T. Kelly (supervisor).  
James Gavan.

CENTRAL COAST OF PERU

Project 3. Dr. Wm. Duncan Strong (director).  
Dr. Gordon R. Willey (supervisor).  
Mrs. Gordon R. Willey.  
Mr. and Mrs. John Corbett.

NORTHERN COAST OF CHILE

Project 4. Dr. Wm. Duncan Strong (director).  
Junius Bird (supervisor).  
Mrs. Junius Bird.  
Srta. Grete Mostny.  
Sr. Hugo Yavar.



## CUBA AND VENEZUELA

- Project 5. Dr. Cornelius Osgood (director).  
 Dr. Irving Rouse (assistant director).  
 Mrs. Irving Rouse.  
 George D. Howard (supervisor).  
 Mrs. George D. Howard.  
 Dr. Carlos García Robiou.

## COLOMBIA

- Project 6. Dr. Wendell C. Bennett (director).  
 James A. Ford (supervisor).  
 Mrs. James A. Ford.  
 Dr. Gregorio Hernández de Alba.  
 Sr. Luis Alfonso Sanchez.  
 Sr. Luis Duque.  
 Four students.

## SOUTHERN HIGHLANDS OF PERU

- Project 7. Dr. Alfred Kidder, II (director).  
 John Howland Rowe (supervisor).  
 Mrs. Marion Hutchinson Tschopik (assistant supervisor).  
 Sr. José M. Franco Inojosa.  
 Sr. Gabriel Escobar M.

## PARACAS, AND PHYSICAL ANTHROPOLOGY, PERU

- Project 8. Dr. Samuel K. Lothrop (co-director).  
 Dr. Julio C. Tello (co-director).  
 Dr. Marshall T. Newman (supervisor).

## NORTHERN HIGHLANDS OF PERU

- Project 9A. Dr. A. L. Kroeber (director, not in field).  
 Dr. Theodore D. McCown (supervisor).

## SOUTHERN HIGHLANDS OF ECUADOR

- Project 9B. Dr. Fay-Cooper Cole (director, not in field).  
 Dr. Donald Collier (assistant director).  
 John V. Murra (supervisor).  
 Sr. Aníbal Buitron Chavez.

## EL SALVADOR

- Project 10. Dr. A. V. Kidder (director).  
 Dr. John M. Longyear, III (supervisor).  
 Stanley H. Boggs.

THE FIELD WORK, ARCHEOLOGICAL SURVEY AND  
EXCAVATION

Prior to the inauguration of the individual projects in June 1941, the Chairman of the Institute of Andean Research, Dr. George C. Vaillant, made a flying trip to the various countries concerned to discuss with the proper authorities the contemplated plan and to enter into negotiations for permits to work. In the latter part of this journey he was joined by his wife. In every case he was received with the utmost cooperation, courtesy, and friendliness. The permits and contracts for research were later signed and delivered to the various directors, who arranged the specific applications. After the Chairman rendered his favorable report, the expeditions were set in motion, some of these being already on the scene to save time in view of the scarcity of sailings.

In the present section we will discuss briefly these various expeditions and outline certain major results attained. In the majority of cases these synoptic reports emanate directly from the project directors or from the supervisors. They are obviously too brief to reveal more than the highlights of each research program, and the reader interested in more detail is referred to the list of monographs already available or in process of publication (p. 45). For the general location of these various projects a map is also provided (fig. 1). Finally, a relative chronological chart of Middle and South American archeology is presented in the concluding sections (p. 42). This should enable the reader to orient the results of each special project in relation to the broader picture of American prehistory. Since the archeological horizons with which the present program was particularly concerned are specially designated, it is also possible to appreciate the great range in time and space represented in these findings. Representing as they do the results of 10 small expeditions working in the field for less than a year, they give great promise for conclusive results when such a program can again be launched over an adequate period. Obviously, the present excavations have not provided cultural linkages between all the better-known but hitherto isolated cultures of the New World. They do, however, indicate that such evidence exists and can be found when nonspectacular but productive scientific research is the actual end in view.

## MEXICO

Owing to the majestic nature of its ruins and the advanced state of the native civilizations encountered there by the Spanish, Mexico has long stood in the forefront of archeological consciousness. The honor



PLATE 2

Upper: The mound at Las Flores, Tampico, on the central coast of Mexico, at the beginning of excavation.

Lower: Same mound after repair work had been completed. This was round and composed of thin plaster layers over earth.







PLATE 3

Upper: Six large superimposed stairways belonging to the latest outer structures, Las Flores, Tampico, Mexico.

Lower: Two stairways belonging to earlier structure lie beneath the slanting walls of the later building. All these superimposed structures belonged to one major period.





PLATE 4

Upper: Stratigraphic cut at Panuco, Mexico, through 6½ meters of refuse deposit.

Lower: Left, architectural remains found at three different levels in Panuco excavation; right, the Panuco excavation completed showing refuse deposits representing an estimated 1,500 years of occupation.





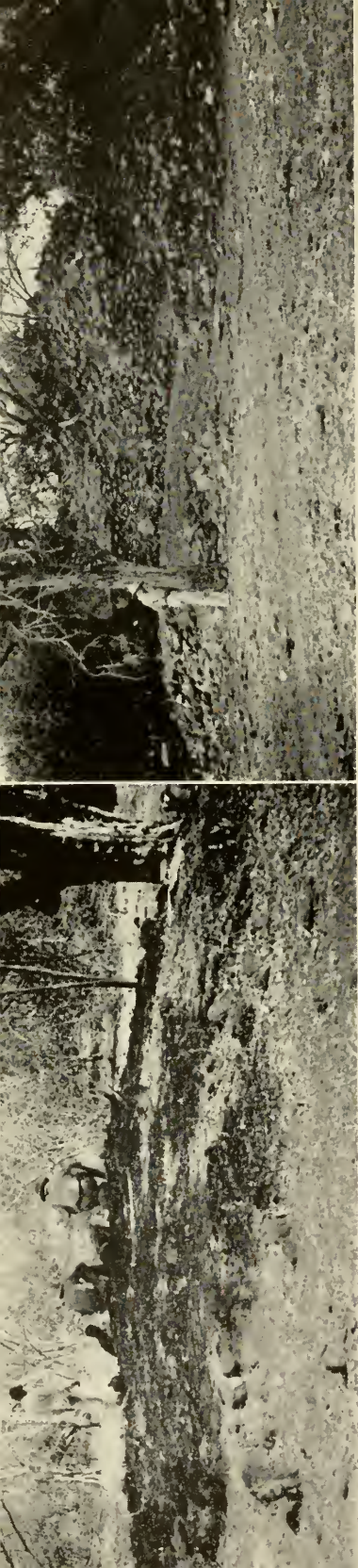


PLATE 5

Archeological sites in Michoacán and Jalisco, Mexico.

Upper : Left, low artificial mound near Apatzingán, Michoacán ; right, large artificial mound at same site.

Lower : Panorama of the Armería River valley near Tuxcacuesco, Jalisco. Several important archeological sites occur in this short river stretch.





PLATE 6

Archeological sites in Jalisco, Mexico.

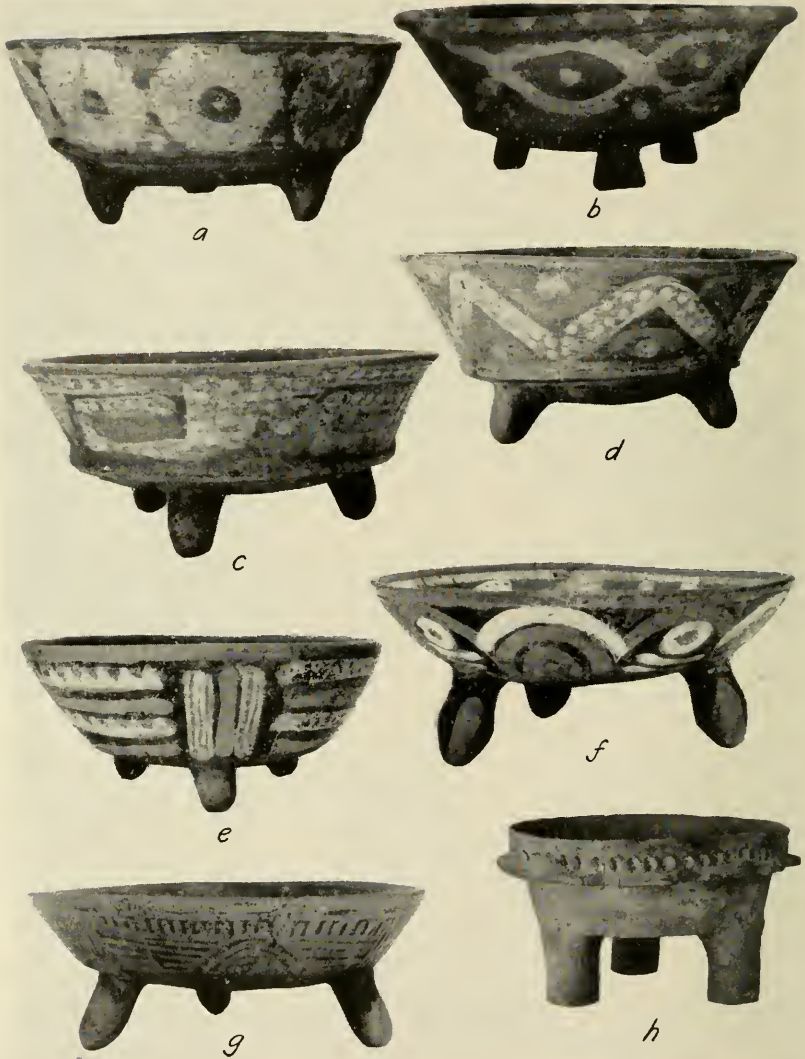
Upper: Site on the mesa east of Tuxcacuesco, Jalisco.

Lower: Start of excavations at the site of Paso Real, near Tuxcacuesco.





PLATE 7



Pottery vessels from the late horizon, Apatzingán, Michoacán, Mexico.  
*a, b*, white-on-red; *c-f*, white-on-red, with negative painting on black; *g*, black-on-red negative painting; *h*, plain ware, with modeled ornament.



PLATE 8



Pottery vessels from the Tuxcacuesco zone, Jalisco, Mexico.

*a, b*, incised red-ware vessels, Tuxcacuesco complex; *c-e*, red or buff-on-brown wares, Coralillo complex; *f, g*, polychrome (red, white, orange); *h, i*, red-on-cream, Tolimán complex.



PLATE 9

Upper: Rough stone masonry at the site of Malpais, near Apatzingán, Michoacán, Mexico.

Lower: Excavations in an earth burial mound near Apatzingán, Michoacán.





FIG. 1.—Map of Middle and South America showing general location of Institute of Andean Research excavations in 1941-1942.

roll of archeologists in Mexico is large and constantly growing. The known sequence of civilizations in the Valley of Mexico runs from the Archaic horizons, or, as they have been more recently designated, the Middle Cultures (the remains of which in places occur beneath lava deposits) up to the Aztecs and the Conquest. While much remains to be accomplished, the Valley culture sequence, like that of the Maya in Yucatan, the Mixtec-Zapotec in Oaxaca and the so-called Olmeca in Veracruz, are at least outlined. The same was not true in regard to the highly significant Huasteca area in extreme eastern Mexico nor the important western region of Sinaloa, Colima, Michoacán, and parts of Central Mexico. For this reason the two stratigraphic excavations and archeological surveys of the Institute of Andean Research were confined to these important but little-known areas. Here it seemed possible to supplement the great national program of archeology which the Mexican Government has been so successfully carrying forward.

#### EASTERN MEXICO

Dr. Gordon Ekholm, of the American Museum of Natural History, was in charge of Project 1, under the nominal direction of Dr. George C. Vaillant. His season's work centered in the region of Tampico and Panuco on the eastern gulf coast of Mexico, within the important but archeologically unknown division of Indian Mexico designated as the Huasteca (see map, fig. 1). In the town of Panuco a stratigraphic excavation was made which, fortunately, cut through very deep layers of refuse and allowed the definition of a long sequence of six cultural periods (pl. 4). Material from other sites within the area corroborated or could be fitted into this sequence, with the result that a relatively complete outline of the cultural history of this part of the Huasteca was revealed.

The abundant ceramic and other materials obtained in these excavations show many relationships to those from other parts of Middle America, and thus the Tampico-Panuco sequence can now be correlated with the known developmental sequences of the Middle American civilizations (relative chronological chart, p. 42). The pottery of the first two periods appears to be related to that of the first two periods in the Lowland Maya area as found at Uaxactun and to the early Zapotec of Oaxaca. This connection with an early phase of culture in the Maya area seems to indicate the reason why a Maya language, Huastec, was left in the area we are considering. The characteristic elements of the Old Empire Maya had not as yet been developed in this early period and this accounts for the complete lack of "typical"



Maya culture in the Huasteca. This tie to the far south was soon broken by what appear to have been waves of influence from the developing Teotihuacan civilization in Central Mexico inaugurating the cultures of Periods III and IV in the Huasteca. Period V can with certainty be correlated with the Aztec I-Mazapan cultures in Central Mexico or the Mexican period at Chichen Itza, as the Huasteca was included within the area of great cultural expansion and movement which was taking place in Middle America at that time. The uppermost cultural entity in the Huasteca, Period VI, is very different from that of Period V and apparently persisted until the time of the Spanish Conquest. This last culture is seemingly more local in character, showing fewer outside affiliations than any of the preceding.

During the season's work in the Huasteca it happened that the culture of Period V became more completely known than that of any other period, for a site within the city of Tampico, which was partially excavated, proved to have been occupied during only this one period. A mound excavated at this site was found to contain a series of 26 superimposed plaster-surfaced substructures (pls. 2, 3). These are unusual in being constructed of merely a thin layer of plaster over an earthen core and in being round, each a truncated cone in shape. This excavation adds data of importance to the history of architecture in Middle America and particularly to the interesting history of round structures.

In another excavation near Tampico Dr. Ekholm obtained material of especial importance in regard to the problems of relationship between the cultures of Middle America and those of the Southeastern United States. This consists of a distinct pottery complex which can be dated as of Period II in the general sequence for the Huasteca area and which suggests relationship with the earlier ceramics of the lower Mississippi Valley. All the implications of this relationship will not become clear until more work is done to the north of Tampico, but the data obtained will serve as an important lead in the future investigation of this problem.

#### WESTERN MEXICO

Dr. Isabel Kelly, under the direction of Prof. A. L. Kroeber, of the University of California, carried out a program of survey and excavation in two archeological zones of western Mexico in the states of Michoacán and Jalisco (Project 2).

At the request of the Instituto Nacional de Antropología é Historia, the 2 initial months of research were devoted to the area of

Apatzingán, in western Michoacán. The large collections which resulted are only now being analyzed. At least three distinct cultural horizons are represented, and there may be five. Until the collections have been fully studied, it is premature to attempt to present a local chronology or to venture statements concerning the relationship of the Apatzingán culture to western Mexico as a whole. However, the Apatzingán report should be completed by the end of the current year. Several views of Apatzingán archeological sites and specimens are shown (pls. 5, 7, 9).

At the conclusion of the Apatzingán work, operations were shifted to the state of Jalisco, being concentrated along the middle course of the Rio Armería, from the modern pueblo of Tuxcacuesco, downstream to the junction of the Rio Ayuquila (pl. 5, lower). Through Dr. Kelly's previous surveys it was known that the local archeological province extended from Autlán to the Colima border, and eastward, across the north flank of the Volcán de Colima, to Sayula and old Zapotlán. The ceramic complexes which had been established tentatively on the basis of surface collections were verified through excavation, and a relatively satisfactory chronology resulted. Ceramically, Tuxcacuesco has intimate ties with nearby Colima, and the several pottery complexes of the latter zone—which had been isolated some years before, but without clue to their temporal sequence—now can be dated obliquely through Tuxcacuesco relationships.

In short, by combining her work of previous years with that done under the auspices of the Andean Institute, Dr. Kelly has been able to define local ceramic complexes and time horizons and to bring into historical perspective several of the ancient cultures of western Mexico. Thus it now is possible to correlate the various archeological horizons from Guasave (Ekholm, 1942), Culiacán, and Chametla (all in the state of Sinaloa) with Autlán and Tuxcacuesco (Jalisco), and with the state of Colima. Once the Apatzingán studies are completed, this Michoacán zone may be added to the general west Mexican scheme. Owing to the rather large series of local cultures which are involved, the data are too detailed to permit incorporation in the accompanying time chart (relative chronological chart, p. 42); only the Autlán-Tuxcacuesco area is included.

Although the west Mexican archeological picture is taking form, central Mexican ties are, on the whole, tenuous. Curiously enough, it would appear that the earliest horizons recognized to date in the west equate with Teotihuacan III (ca. A.D. 800). This is far too late for the west Mexican cultures to have played a very significant formative role in the development of the American Southwest cultures.



PLATE 10

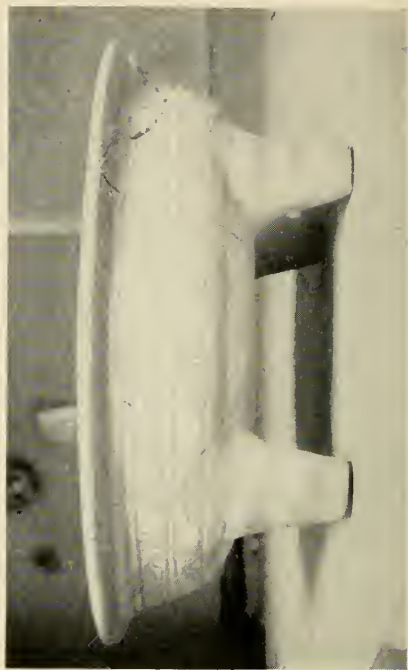
Upper: Mountains in the Department of Morazan, El Salvador.

Lower: The ball court at Los Llanitos, El Salvador, during excavation. This is the most southerly ball court yet recorded.





PLATE II



Pottery objects from caches at Los Llanitos, El Salvador.





1. Typical monkey-head adorno from Barrancas on the lower Orinoco River, Venezuela.



2. Specimens of the Sub-Taino culture, Cuba.



PLATE 13

Upper: Excavation at Ronquin on the middle Orinoco River, Venezuela. Material from this site demonstrates the cultural connection between northern South America and the Greater Antilles.

Lower: Excavation at El Mango, near Banes, Cuba.



Assuming that both the Southwestern and Mexican chronologies are correct, it will be necessary either to look elsewhere for contact corridors or to locate earlier horizons in western Mexico, so that the cultural interplay between these two major archeological provinces may be clarified.

The results of the present investigations will be presented in two reports. One, "Excavations at Apatzingán, Michoacán," is in preparation. The other, "Introduction to the Archeology of the Autlán-Tuxcacuesco Area of Jalisco," has been completed and delivered to the University of California Press. It includes an appendix by James Gavan which deals with the skeletal material. The physical anthropology of the Apatzingán area will be treated by an as yet undesignated member of the Museo Nacional staff.

#### EL SALVADOR

El Salvador, especially the eastern part of the Republic, has always been one of the least-known regions of Central America, archeologically speaking. For this reason, and also because El Salvador was anciently the boundary between the Maya peoples of the north and the tribes of Nicaragua and Costa Rica to the south, it was thought advisable to make a preliminary survey of the country, in order to gain some idea of the peoples and sequences of cultures in this area.

Under the direction of Dr. A. V. Kidder, Dr. John M. Longyear, III, of the Peabody Museum of Harvard, supervised Project 10 from November 1941 until April 1942, conducting reconnaissance and excavations in eastern El Salvador. Because of the dearth of previous investigations, most of the work had to be carried on through the medium of private collections. Besides these, however, Dr. Longyear also investigated reports of archeological sites throughout the trans-Lempa region, this including the Departments of San Miguel, Usulután, Morazan, and La Unión.

Dr. Longyear's main excavation took place at Los Llanitos in the Department of San Miguel, a ruin consisting of 10 mounds and a ball court, the latter the most southerly heretofore discovered (pls. 10, 11). Investigation at this site was confined principally to the ball court and two other mounds. Some 20,000 fragments of pottery, and two fairly large caches, each containing a number of complete vessels, were uncovered. An analysis of these indicates that Los Llanitos was a one-period site, probably existing in the tenth and eleventh centuries A. D. Influences from neighboring areas, i. e., that of the Maya to the north or of Nicaragua and Costa Rica to the east and south, were almost totally lacking. For this reason, conclusions as to the affinities



of Los Llanitos must be withheld until further work is done in eastern El Salvador and south-central Honduras.

After the conclusion of Dr. Longyear's work in the field, his assistant, Stanley H. Boggs, carried on a brief program of reconnaissance and excavation in central and western El Salvador. Aside from the investigation of sites, especially in the Departments of La Libertad and Santa Ana, Mr. Boggs also carried out preliminary excavations at Hacienda Tula, Department of La Libertad, and at the well-known ruin of Tazumal, in the Department of Santa Ana. The latter was undertaken with the cooperation of the Salvadoran Government and, although not conclusive, showed that Tazumal contained several phases of building activity, and that its main period was roughly contemporaneous with the highest cultural period of Copan, Honduras (ninth to eleventh centuries A. D.). The Government of El Salvador is continuing excavations at Tazumal, and important discoveries relating to the frontier region of the Maya are expected from this program.

The work of this expedition uncovered a new ceramic culture in eastern El Salvador, tied the western part of the Republic in closely with the southeastern Maya culture, and laid a strong foundation for future scientific research in the whole of El Salvador.

#### VENEZUELA AND THE WEST INDIES

The fifth project of the Institute of Andean Research was concerned with Venezuela and the West Indies, where the Peabody Museum of Yale University has for the last decade been conducting an extensive program of anthropological research. Under the direction of Dr. Cornelius Osgood, the present Institute of Andean Research expeditions from the Yale Museum operated both in Venezuela and in Cuba, George Howard serving as supervisor in Venezuela and Dr. Irving Rouse as assistant director in Cuba. Prof. Carlos García Robiou, of the University of Habana, also participated in Project 5, as supervisor in Cuba.

In Venezuela, Dr. Osgood and Mr. Howard made a survey of the archeological content of the country, studying the local collections and sinking test excavations in numerous important sites. In addition, Mr. Howard excavated intensively in the Ronquín region on the Orinoco River—an area which had hitherto been archeologically unknown—and Dr. Osgood worked up, in the light of the survey, material previously excavated in the Tocarón region near Lake Valencia.

The survey has made it possible to establish six major ceramic areas in Venezuela: The middle and lower Orinoco River regions to the south and east, the northeast coast, the Lake Valencia area south of the coast, the northwest, and the Andean region. Of these areas, the Lake Valencia region is the most typically Venezuelan. As far as pottery is concerned, the western highland region shows connections to the west, and the Orinoco areas with the West Indies. In fact, the test excavations at Los Barrancos along the lower Orinoco provide the first definite evidence of the relationship in pottery styles between the mainland of South America and the West Indies.

Mr. Howard's excavations at Ronquín in the middle Orinoco have produced the pioneer stratigraphic sequence of that area: an earlier period in which the pottery resembles most closely the earliest known ceramics in Trinidad and less closely that which begins the sequence in Puerto Rico, and a later period which seems to be more typical of the middle Orinoco region. Dr. Osgood's work on the material from Tocarón in the Lake Valencia area, when combined with previous research by Dr. Alfred Kidder, II, also suggests two successive ceramic periods, the earlier of which bears certain resemblances to the pottery of the Orinoco area and Trinidad.

In Cuba, Dr. Osgood made a brief excavation in the site of Cayo Redondo on the western end of the island, while Drs. García Robiou and Rouse dug extensively in several sites in the Maniabón Hills near the eastern end of the island. In addition, Dr. Rouse made a survey of the archeology of Cuba, in a part of which Drs. Osgood, García Robiou, and García Valdés also participated.

Dr. Osgood's excavations at Cayo Redondo yielded much information concerning the Ciboney Indians, a pre-ceramic, pre-agricultural group who may possibly have had their origin in Florida. The excavations in the Maniabón Hills were concerned not only with the Ciboney but also with the Arawak, a pottery-making, agricultural group who are supposed to have succeeded the Ciboney throughout most of the island. The theory is that these Arawak migrated northward from South America through the islands of the West Indies, driving the Ciboney into the remote swamps of the western part of Cuba. Evidence was obtained in the sites of the Maniabón Hills not only of this replacement of the Ciboney by the Arawak, but also of two successive migrations of the Arawak Indians: an earlier Sub-Taino immigration from Haiti which had previously been unknown and a later one by a people called Taino, whose tradition was that they had entered Cuba only 5 years before the Spanish Conquest. The survey of the island corroborated this succession of migration, for the

Ciboney cultures have been reported for all parts of the country, whereas the culture of the Sub-Taino which is known as Bani, has so far been located only in the eastern and central parts of Cuba, and the culture of the Taino, which is named Pueblo Viejo, is limited to a small area on the eastern tip of the Island.

#### COLOMBIA

The geographical location of Colombia in the northwest corner of the South American continent is of considerable archeological importance. All land migrants from North to South America must have passed through this country, so that Colombia should some day produce the much sought after evidence of early migrations, as well as the key to the relationship of the high civilizations of Middle America and Peru. Quite aside from this theoretical importance, Colombia was the center of the advanced civilization of the Chibchas, the skilled Quimbaya gold workers (pl. 14), and the mysterious stone carvers of ancient San Agustín (pl. 15).

The Colombia project (Number 6) was directed by Dr. Wendell C. Bennett, of Yale University, accompanied by James A. Ford, of Louisiana State University, as supervisor. Survey work, coupled with close consultation with Colombian savants, led to the selection of the Cali region of the Cauca valley as a profitable point for excavation. Dr. Gregorio Hernández de Alba, Director of the National Museum of Archeology, Dr. Paul Rivet, Director of the Institute of Ethnology, Dr. Luis Alberto Sarmiento of the Department of National Education, Sr. Luis Alfonso Sanchez and the late Prof. Justus W. Schottelius, both of the National Museum, all gave generously of their time and knowledge.

A cooperative program was worked out whereby Dr. Hernández de Alba, accompanied by four students, continued his important excavations in the Tierradentro region, Sr. Luis Duque initiated a survey of Caldas archeology, and Sr. Luis Alfonso Sanchez assisted Mr. Ford. This program was financed by funds from the Sección de Extension Cultural, Arqueología, and by fellowships from the Institute of Andean Research.

Dr. Bennett and Mr. Ford alternated excavation in the Cali area with a general survey of many of the important sites and collections in Colombia. Accompanied by four Colombian scholars, they visited the famous ruins of San Agustín and examined the newly discovered stone carvings (pl. 15, upper). Particular attention was paid to the ceramic collections in local museums. The site of Lavapatás, near San Agustín, uncovered in recent years, presented an amazing array



A gold mask from Tierradentro, Colombia (upper), a Quimbaya gold vase in the Juan Heindinger collection, Medellin (lower left), and Quimbaya vessels and figurine in the American Museum of Natural History, New York.





PLATE 15

Upper: A great stone face at San Agustín, Colombia. Several hundred of these occur at this famous and ancient site. Note the overlapping fangs in the figure's mouth.

Lower: The elaborately carved stream bed at Lavapatas, San Agustín. These baths were uncovered only 6 years ago.







PLATE 16

Upper: Burial urns from a deep shaft grave near Cali, Colombia. These pertain to the Rio Bolo culture.

Lower: A carved and painted subterranean tomb wall at Tierradentro. These tombs were recently discovered by Colombian archeologists.





PLATE 17

Upper: Members of Ecuadorian expedition with Indian guides exploring the 13,000-foot-high *paramo* in southern Chimborazo.

Lower: Type of country explored by the Ecuadorian expedition in the Province of Loja, southern Ecuador.



of elaborate carvings, channels, and baths cut out of the bedrock of a shallow stream (pl. 15, lower). A short visit to Inzá in the Tierradentro region allowed examination of the deep subterranean tombs discovered by Dr. Hernández de Alba. Circular stairways lead down to these subterranean chambers, and the interior walls (pl. 16, lower) are decorated with carved relief and with black, white, and red painted geometric designs.

Later survey work included visits to many other regions. Over 4,000 photographs of important specimens in local collections were taken. These are now on deposit at the National Museum in Bogotá. Materials examined represented eight major archeological areas of Colombia, namely, Santa Marta, Chibcha, Sinú, Quimbaya-Quindío, Cali region, Nariño, Tierradentro, and San Agustín.

Formal excavations centered in the Cauca valley in the vicinity of Cali. At this point the Cauca River has a wide, flat flood plain, ideal for cattle grazing and sugarcane plantations. In spite of the importance of these flats today, the survey indicated that the area was of negligible importance in the past. Apparently the swampy, grass-covered flats were of little use to peoples without domestic animals for grazing and with corn as the basic crop. Instead, the best archeological material was found on the mountain slopes and in the narrow valleys on each side of the Cauca plain. Even here surface ruins were not encountered, and there was no evidence of large, concentrated village sites.

In many parts of the mountains, areas had been flattened artificially for house sites. A number of such house platforms might be arranged down the crest of a ridge like giant steps, but without a village pattern. Excavations on these platforms revealed shallow deposits of pottery fragments of the ancient dwellers. A broken grindstone or a crude stone pick might be found to one side. In spite of careful searching no evidence of post holes of the old houses was discovered on these platforms.

Many graves were discovered. Some of these were located near the edges of the house platforms, but others were found in more isolated spots, apparently designated as cemeteries. The commonest type of grave was entered via a square shaft which extended to a depth of from 6 to 20 feet. The hollow chamber of the tomb was to one side of the shaft and was entered by a windowlike door, carefully closed with a large flat stone sealed in position with gray clay. The chamber was shaped like the quarter section of an orange. The floor plan was hemispherical and the walls curved up to the doorway above. One or more extended skeletons were found in a rectangular pit in the



floor. Pottery vessels were piled up around the sides. In one grave over 200 vessels were found, and most of them had apparently been made especially for burial purpose.

The numerous sites excavated were ultimately analyzed as pertaining to two major periods. The latest, designated as the Quebrada Seca period, was characterized by shaft tombs of about 6 feet in depth. Pointed-base ollas, pedestal bowls, and simple effigy vessels were typical. Although no final evidence was available for chronological position, the period is probably just pre-Spanish. The earlier period, named Rio Bolo, was characterized by deep tombs, up to 20 feet, and by pottery much simpler in form and decoration. Some of the tombs had crude burial urns (pl. 16, upper). It was not possible to determine the precise age of this period.

In total over 1,000 complete specimens were recovered, consisting mainly of pottery vessels, spindle whorls, and simple stone artifacts. These specimens were divided into two equal lots. One has been deposited as part of the permanent collection of the National Museum of Archeology in Bogotá, and the other is packed and stored until shipping conditions will permit its being brought to this country.

#### ECUADOR

The Ecuador project(9B) was under the direction of Dr. Fay-Cooper Cole, who did not go south. The execution of the work devolved on the assistant director, Dr. Donald Collier, of the Field Museum, and the supervisor, John V. Murra. In Ecuador they enlisted the aid of Sr. Aníbal Buitron Chavez, a young school teacher, as local assistant.

Despite difficulties resulting from the Peruvian war, the expedition carried out an archeological reconnaissance in the little-known highland provinces of southern Ecuador. The survey extended from Riobamba, in central Ecuador, southward to Loja, a distance of approximately 180 miles, and covered territory ranging in altitude from 2,500 to 14,000 feet (pl. 17). The party traveled by plane, automobile, muleback, and afoot.

On the basis of the information gained by the survey, the Cañar valley, in the Province of Cañar, was chosen as the most fruitful place to excavate. Intensive digging was carried out at Cerro Narrío, a large hill containing burials, remnants of houses, and large refuse deposits left by the prehistoric Indian inhabitants. Other smaller sites in the valley were also investigated (pl. 18).

The work at Cañar established a stratigraphic cultural sequence for the valley, which makes it possible to reconstruct the local history.



Between A.D. 1000 and 1200 the Cañari Indians settled in the valley. They were an agricultural people who made very fine pottery and lived in houses constructed of upright poles and mud and roofed with grass thatch. It is not known as yet where these people came from, but there is evidence that they had cultural connections with the Ecuadorian coast and possibly also with the Amazon Basin. During the early years of their occupation of the valley, they apparently made little use of metal, but later they made copper axes and elaborate gold ornaments. About A.D. 1400 the Cañaris were strongly influenced by the Puruhá Indians, who lived in the mountains to the north, and about 50 years later the Cañaris were conquered by the Incas, who succeeded in adding most of Ecuador to their empire.

For many years there has been held a theory that Maya colonists reached Ecuador and founded settlements there. The Cañar valley was supposed to be one of the principal centers of this transplanted Maya culture. The evidence gathered by the expedition fails to substantiate this theory. The Cañari culture seems to have had Andean roots, and such generalized Central American resemblances as are present do not point to a direct Maya migration from the north.

Ecuador should be better known archeologically. Sr. Jacinto Jijón y Caamaño has labored titanically to overcome the neglect of this important field. The work of the Andean Institute, and of Edwin N. Ferdon, Jr., for the School of American Research, has helped to fix high standards for research. Interest in Ecuadorian archeology is strong, but funds are low. Yet the Republic is a key point for long-term studies of Indian population under aboriginal, colonial, and present-day conditions.

#### PERU

Peru has been the seat of many ancient and powerful Indian civilizations. The interest of resident and foreign scholars in ancient Peru has had the same long history that archeology has had in Mexico. Peru might well be called the Mesopotamia or Egypt of the Americas, and for that reason no less than four projects were organized to attack various phases of the problems of the Peruvian past.

Despite years of exploration, research and, sad to say, unbelievable looting, we are still only on the threshold of adequate knowledge concerning the prehistory of this fascinating country. Less rich than Mexico or the United States, the Government of Peru has been in no position adequately to exploit the wonders of her past. Nevertheless, two big government projects have successfully explored the great sites of Cuzco and Pachacamac. The limited stratigraphic excava-

tions sponsored by the Institute of Andean Research were carried on in close cooperation with the larger government projects and were geared to implement these, particularly in regard to relative chronology. Since the highland region of Peru as a whole is less known than the coast, work was carried on there in both the extreme north and south.

#### NORTHERN HIGHLANDS OF PERU

Project 9A, under the supervision of Dr. Theodore D. McCown, was carried out in the general region of modern Huamachuco and Cajabamba. It consisted of a survey and some excavation centering at the great ruins of Marca Huamachuco and Viracochapampa, although a considerable number of other sites were sampled. Maps were made of these two large ruins and of several others. This remote region is little known by either Peruvian or foreign archeologists, and the present work greatly supplements the incomplete surveys of Max Uhle made around the turn of the century.

Several styles of architecture were encountered in the region, and these could be correlated with distinctive ceramic types. At Marca Huamachuco proper, two periods are clearly distinguishable. An earlier period, termed Middle Huamachuco, is characterized by narrow structures with massive stone walls of "pirca" construction rising to three stories (maximum 9 meters) in height (pl. 21, upper). The distinctive stone sculptures (pl. 20) from Marca Huamachuco are of this period. Associated with the above is an abundant red-slipped pottery ware. This pottery is usually plain but is occasionally ornamented with negative-painted designs in black. More distinctive, however, is a ware having a fine white paste decorated with red and black designs in the "cursive-painted" style. Pertaining to the Middle Huamachuco period, apparently as rural contemporaries to the main site, are a number of semifortified hill-top settlements on the borders of Lake Sausagocha.

The second period of Marca Huamachuco is represented by walls of the same general type of construction, but the stones are smaller, the walls are thinner, and, owing to faulty construction, they are more ruinous. These clearly overlie and postdate the more massive construction of the earlier period. The ceramics of this second period, termed Late Huamachuco, include an abundant plain ware decorated with appliqué, punched and incised designs, as well as a crudely painted ware with red and black designs on a white slip. There is some suggestion of Inca influence in both ceramic form and style, but this horizon is believed to antedate the true Inca period. From the present



PLATE 18

Upper: Cerro Narrío, Province of Cañar, most important archeological site excavated by the Institute of Andean Research expedition in Ecuador. The discovery of a few gold objects here many years ago started a sterile "gold rush" which lasted until recent years. Despite all the destruction, the present expedition was able to uncover clearly stratified culture deposits.

Lower: Cañar valley seen from Cerro Narrío.





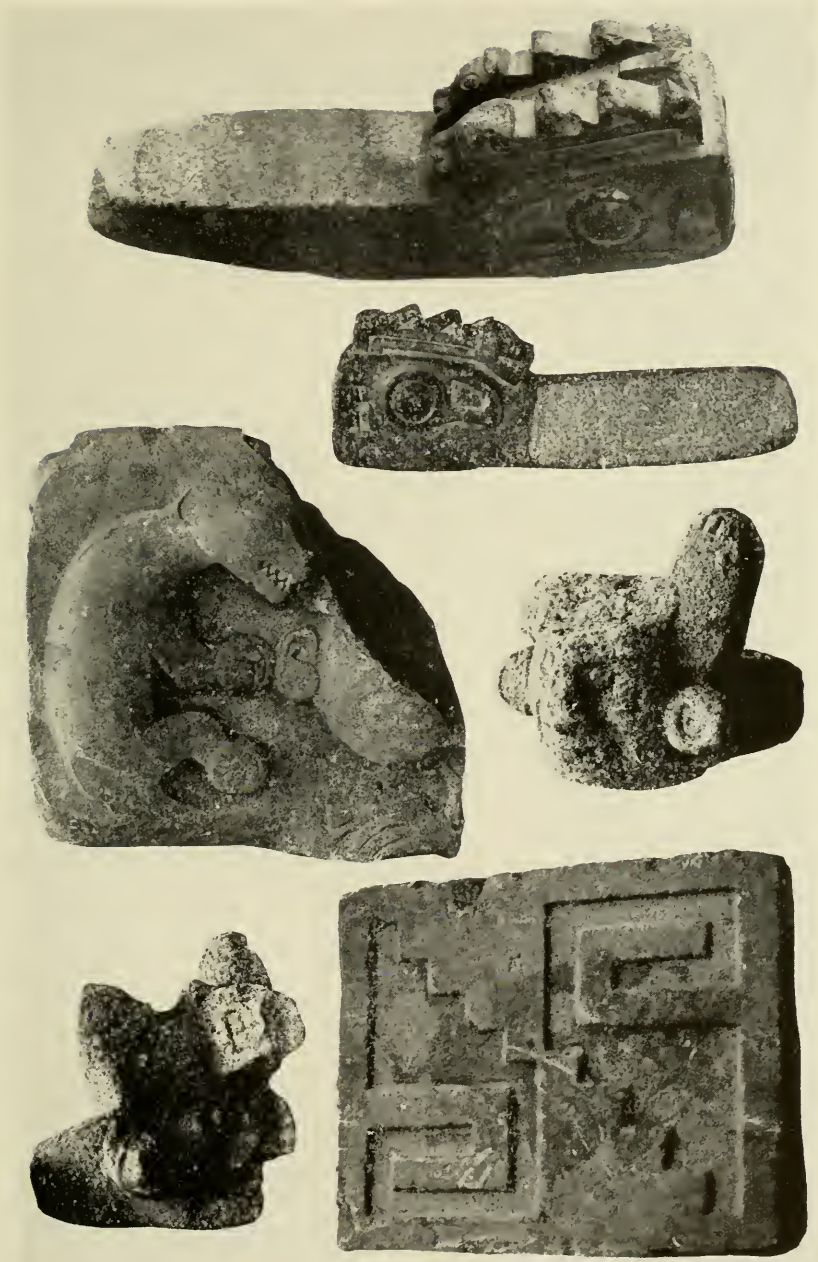
PLATE 19



Upper right and lower, polished red cup and bowl with engraved designs, Late period, Cerro Narrio, Ecuador; upper left, two polished red bowls typical of the Early period, Cerro Narrio.



PLATE 20



Stone carvings from the ruins of Marca Huamachuco in the northern highlands of Peru. Courtesy of the Museum of Anthropology, University of California.



PLATE 21

Upper: Panorama of Marca Huamachuco, Peru, from the east wall of the Castillo, looking east across the Great Plaza toward Long Gallery A.

Lower: Panorama of Viracochapampa, northern highlands of Peru, looking slightly north of west. This remarkable site was occupied within Inca times.



evidence McCown believes that the Inca city of Huamachuco, mentioned in the chronicles of Cieza de Leon, was not Marca Huamachuco but the site now called Viracochapampa.

Viracochapampa, then, apparently represents the third and latest period in this region, here designated as Incaic Viracochapampa. The rectangular plan and regular care with which this site is laid out (pl. 21, lower) is unparalleled in any other site visited by the expedition. The general arrangement suggests Inca planning, and the site bears considerable resemblance in over-all plan to the ruins of Pikil-lacta (pl. 27, upper) near Cuzco. However, the emphasis on long, narrow galleries, of at least two floors, shows a persistence of the local architectural style as represented at Marca Huamachuco. These galleries are only one-third the size of the great ones in the Middle Huamachuco period but have structural details recalling that style of building. The pottery recovered at Viracochapampa was somewhat disappointing, inasmuch as no Inca polychrome or local imitations of that ceramic style were discovered in the 12 excavations sunk there. The pottery is very crude and is distinctive from Middle Huamachuco, but relationships to Late Huamachuco, while not obvious, do exist. It seems strange that no distinctive Inca ceramics were encountered, but McCown is convinced that this great ruin pertains to the Incaic period. Thus, he states that the period represented by Viracochapampa can be called Incaic Huamachuco (here termed Incaic Viracochapampa; see relative chronological chart, p. 42) and represents a local population with its chief, set up in an Inca-engineered town that only faintly recalled the long-dead glories of Marca Huamachuco in the Middle period.

The outside connections suggested by the art styles of the Marca Huamachuco-Viracochapampa region are interesting. The stone sculpture in some general features, such as the tenoned heads (pl. 20), recalls the ruins of Chavín de Huantar but the sculptural style is highly distinctive. The white paste ceramic ware of Middle Huamachuco apparently belongs in general to what Tello has designated as the Marañon type. The "cursive-painting" style occurs in the Marañon, in Wilkawain in the Callejón de Huaylas, in Cajamarca, and in the Middle Chimu period at Moche on the north coast. Some Middle and Late Chimu influences from the north Peruvian coast are also noted in pottery of the Middle and Late Huamachuco periods respectively. The negative-painted pottery in Middle Huamachuco may be related to certain negative-painted styles in Ecuador and to the two-color negative of Huaraz in the Callejón de Huaylas, but these comparisons must await the publication of the materials. Strange to say,



no Tiahuanaco- or Epigonal-style sherds were encountered, though they have been reported from sites farther to the north and the styles are well known at sites in the Callejón de Huaylas. The absence of true Inca styles is puzzling, but this, like the present lack of materials from horizons older than Middle Huamachuco, may be explained when more excavation has been accomplished.

McCown's work brings considerable order out of disorder. On the relative chronological chart (p. 42) his results have been tentatively correlated with the sequence of the central Peruvian highland as outlined by Bennett. As to dating, McCown does not believe that Viracochapampa can antedate the Inca conquest under Tupac, which probably occurred after 1430. Late Huamachuco might then be estimated as lasting two centuries, and the termination of Middle Huamachuco could have occurred in about 1200. He believes three centuries could easily account for all the construction at Middle Huamachuco sites but states that the initial date for this culture is as yet a matter of pure speculation.

#### SOUTHERN HIGHLANDS OF PERU

Project 7 was directed by Dr. Alfred Kidder, II, with John Howland Rowe as supervisor and Marion Hutchinson Tschopik as assistant supervisor, and was carried on in the highlands of southern Peru from early in June 1941, to June 1942.

The project was materially aided by Dr. Luis E. Valcárcel, Director of the Museo Nacional, Lima, whose long-standing interest and contributions in regard to the historical problems of southern Peru are well known to Andean scholars, and by Sr. José M. Franco Inojosa, representing the Patronato Nacional de Arqueología. In Cuzco, Sr. Gabriel Escobar M., Mr. Rowe's assistant, contributed greatly to the success of the major part of the project's work.

The director, who spent 3 months in the field in the northern Lake Titicaca basin, devoted himself, with the help of both supervisors, to a reconnaissance aimed at the determination of the nature and distribution of early culture on the Peruvian side of Lake Titicaca. A considerable excavation made in 1939 at Pucara, northwest of the lake, had revealed an important center comparable in size and elaboration to Tiahuanaco in Bolivia, and tentatively contemporaneous, on the basis of comparative studies, with the Classic period of that site.

On the 1941 reconnaissance 10 new sites of this pre-Inca period were discovered in the Titicaca basin between Juli on the western shore and Conima on the Bolivian border on the northeastern shore. Although no excavations were made, surface pottery, characteristic



sculpture, and, in some cases, architectural remains served to relate the sites to Pucara and the known Tiahuanaco sites in Bolivia. On the whole, the evidence of ceramics and sculptural style points to a closer relationship of the new sites to Pucara than to Classic Tiahuanaco (pls. 22, 23). It can now be said with some assurance that Tiahuanaco culture, as manifested in the Classic period at the Bolivian sites, did not occupy the entire Titicaca basin. The northern sector of the area seems rather to have been the home of a Pucara culture, closely related to that of Tiahuanaco but in no sense an extension of it. The culture of both Tiahuanaco and Pucara are better classified as phases, or aspects, of an early Titicaca culture. The lack of a wide emanation of specific traits and actual trade objects from Tiahuanaco itself, even in the Titicaca area, is evidence that the spread of the "Tiahuanaco" style over great parts of Peru and Bolivia cannot have been due to a political expansion comparable to that of the Inca.

In order to further the outlines of a complete historical perspective in the Titicaca basin, Mrs. Tschopik has undertaken the investigation of the periods following the Tiahuanaco-Pucara horizon and continuing through the Inca domination. Her work has included the surface investigation and mapping of numerous late sites and excavations on a small scale to determine local pottery sequences and associations. As a result of her work, the old idea of a "Chullpa" (burial tower) period, antedating the Inca conquest of the area, loses much of its validity (pls. 24, 25). Most of the "Chullpa" sites are of Inca date, and the historical evidence points to a rather short Inca occupation of this area. It may become necessary to revise our estimates of the absolute age of the earlier periods rather drastically toward the present. Mrs. Tschopik's work provides a picture of local cultures rather strongly influenced by the Inca in many material ways, but retaining local styles of pottery technically and artistically inferior to those of earlier date.

Mr. Rowe, after working with the director, spent from October to March in Cuzco, the center of the Inca Empire. In spite of its obvious importance in Andean prehistory, no thorough archeological studies have hitherto been made in Cuzco, and no evidence of a pre-Inca culture in the Cuzco basin had come to light.

Mr. Rowe's stratigraphic work at Chanapata, in the outskirts of the city, revealed what he has called the Chanapata culture, displaying ceramic and architectural traits which relate it to the pre-Inca phases of Chavín, Pucara, Tiahuanaco, and Chiripa (pl. 26). Three additional sites of the Chanapata period were found in the Cuzco area.

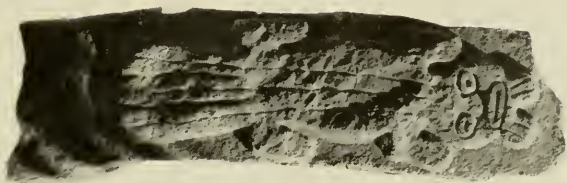
The origins of the classic Inca styles of pottery proved elusive in such a short field season, but some material came to light which may prove to date from this stage. Classification of the Cuzco Inca ceramics was an important part of the project's work. Without a knowledge of the types existent at their presumptive source, their use in the determination of the extent of Inca influence and dating the Inca conquest is difficult.

A number of important Inca sites in the Cuzco region were discovered and some of the recorded or vaguely known sites were re-studied. An accurate, large-scale plan of the Temple of the Sun, one of the outstandingly important Inca structures, will supplant the highly inadequate previously published plans. Mr. Rowe's detailed study of this temple and of other Inca architectural elements supplements those of ceramics. His final report, embodying the archeological field studies, with an evaluation of historical sources, presents the first comprehensive, clear basis for further Incaic studies. In combination with recent Peruvian work, the three subprojects of Project 7 have begun, at last, to supply reliable evidence in place of the combination of fact, traditions, and dogma upon which southern Peruvian prehistory has been largely based.

#### CENTRAL COAST OF PERU

The Peruvian coast is one of the most astonishing archeological areas in the world. Here an almost unique combination of fertile and irrigable small river valleys, with intervening dust-dry deserts, has not only encouraged the rise of successive civilizations but has also preserved to the present day the most fragile products of even the most ancient of these. Great adobe pyramids and structures, with innumerable vast graveyards of all periods mark the sandy rim of each coastal valley or rocky outcrop in the valley floor. Only the valley of the Nile is comparable to coastal Peru in this regard, for there, too, the dry desert, traversed by a fertile river valley, furnished a very similar environment.

While the abundant evidences of prehistory on the central coast are better known than those of the highlands owing to easier access from the sea as well as proximity to Lima and other modern cities, there are still great gaps in the scientific record. Museums bulge with rich ceramic, textile, and other art products from this general region, but the development of these arts and the succession of the civilizations that produced them is in considerable part still a subject for mere speculation. This is due in part to the fact that much of the detailed work of Peruvian and other excavators has never been published and



Left, three stone sculptures from Araco; right, carved stela from Asiruni, west of Lake Titicaca, southern highlands of Peru.





PLATE 23

Upper: Surface of the old temple at Incatunhuiiri, near Puno, southern highlands of Peru.

Lower: Intricately carved stela preserved in modern church at Aropa, southern highlands of Peru.







PLATE 24

Upper: An Aymára Indian village in the Lake Titicaca basin, Peru.

Lower: Type of "Chullpa"—a burial tower used by the Indians in late pre-Spanish times, southern highlands of Peru.





PLATE 25

Left and right;  
Types of "Chullpas."  
Many of these belong  
to the Inca period,  
Peru.







PLATE 26

Upper: View of Cuzco valley from Chanapata, the first pre-Inca site found in Cuzco, south-central highlands of Peru.

Lower: Excavating at Chanapata.





PLATE 27

Upper: The great enclosure wall at Pikillacta, near Cuzco, Peru. This high-walled ruin has the appearance of an Inca garrison town.

Lower: Part of the system of Inca agricultural terraces at Maras, near Cuzco.







PLATE 28

Upper: View from the Sun Temple at Pachacamac, Peru, looking toward the "House of the Cacique." This great coastal city was conquered by the Inca and later sacked by the Conquistador Hernandez Pizarro.

Lower: Burial of the ancient White-on-red period encased in huge broken vessels at a depth of 5 meters, Cerro de Trinidad, Chancay valley, Peru.





PLATE 29

Upper: The great Sun Temple at Pachacamac, which was constructed by the Inca after they conquered the central coast of Peru. Compare this late temple with its earlier prototype shown in plate 30, lower. (Institute of Andean Research excavation, left center.)

Lower: The deep stratigraphic cut at the base of the Sun Temple, Pachacamac. Note size of figures in the excavation.





is therefore not available to the scientific world at large. Another factor is the paucity of detailed stratigraphic excavations in the vast and deep rubbish heaps in or adjacent to the many ruined cities. Such rubbish heaps in their successive layers contain clear-cut evidence of the sequence of cultures or civilizations that formerly flourished in each valley.

Finally, and this is dependent on the stratigraphic studies just mentioned, there is great need for careful studies in physical anthropology which will determine with exactitude the sequence of human physical types that were the bearers of each of these civilizations. This can only be done by detailed comparison of the pottery and other objects in each carefully opened grave with those from known stratigraphic horizons in the refuse deposits just mentioned. Every thoughtful visitor to Peru is struck by the many vast and ancient graveyards that abound on the coast. Owing sometimes to erosion, but more often to 400 years of intensive looting in hopes of treasure, many of these cemeteries stand open, with the bones and crania of the dead exposed and intermingled. Since one such site may contain the dead of numerous periods, or cultures, studies of mixed surface collections, such as have too often been made in the past, can have little or no historical or developmental value. Of late years this has been clearly realized by most scientists, but the problem is so vast and trained workers and funds are so limited, that such correlated scientific research is still in its infancy.

The Institute of Andean Research program on the central coast of Peru was inaugurated with these specific needs in mind. One project (Project 8) under the co-directorship of Dr. Samuel K. Lothrop and Dr. Julio C. Tello, with Dr. Marshall T. Newman as supervisor, was of a twofold nature. The cultural side of this project included the preparation and publication of some of the vast accumulated data resulting from the excavations of Dr. Julio Tello at the rich and important Paracas site. This site, on a wind-swept sandy peninsula just south of Pisco, is famous as a center for the very early and artistically advanced Necropolis and Cavernas cultures. The former culture, represented by crowded burials in old subsurface structures, is characterized by rich textiles with complex designs somewhat similar to those on the beautiful polychrome pottery from the Nazca region (pl. 31, left). The Necropolis pottery, however, is relatively simple and lacks polychrome decoration (pl. 31, lower right). The Cavernas culture, from closely adjacent deep tombs at Paracas, lacks these elaborate textiles but has a highly distinctive incised and painted pottery style (pl. 31, upper right). This Cavernas-style pottery is

often marked by representations of the feline deity and is closely related to the art style of Chavín de Huantar in the central highlands. Since these distinctive styles found at Paracas have far-flung cultural as well as artistic implications the publication project involves the reproduction in color of the magnificent art of Paracas, supplemented by a text by Dr. Tello, who made the discoveries. In that Peruvian fabrics take a high, if not the highest, stand among the great textile arts of the world, this volume, which is to appear under the auspices of San Marcos University, should stimulate not only scholarly interest but also the appreciation of artists and designers the world over. The printing of the plates is a slow process, but the work should appear in due time. We will discuss the other section of Project 8 shortly.

The second main coastal project in Peru (Project 3) included Dr. Wm. Duncan Strong as director, Dr. Gordon Willey, of Columbia University, as supervisor, and John M. Corbett as field assistant. Dr. Strong was in the field from June to October, 1941, and the work was continued under Dr. Willey assisted by Mr. Corbett. Both Mrs. Willey and Mrs. Corbett assisted greatly in both the laboratory and the field. Thanks to the unstinted advice, assistance, and cooperation of Dr. Tello, Dr. Valcárcel, and other Peruvian archeologists, this project achieved considerable success in intensive stratigraphic excavations in rubbish heaps. The primary purpose of this work was the objective definition of ceramic styles and sequences to assist in satisfying one of the regional scientific needs previously stressed.

Thanks to the generous invitation of Dr. Tello, who for several years has been carrying on revealing and extensive excavations at Pachacamac, the great ruined city 30 kilometers south of Lima, it was possible for Dr. Strong and Dr. Willey to make a deep stratigraphic cut at this famous site (pl. 29). This cut, made in a large refuse heap outside one entrance of the Temple of the Sun, revealed at the top 2 meters of abundant Inca refuse, including associated late local styles, while below this were 8 meters of deposit containing a ceramic style designated as Pachacamac Interlocking. This last style was associated with a hitherto unreported style here designated as Pachacamac Negative. In addition, in the lowest stratigraphic blocks occurred traces of a third and earlier style best known as Chancay White-on-red. This very early sequence of styles had not previously been demonstrated at Pachacamac.

In 1903 Dr. Max Uhle, famous for his pioneering excavations in Peru, demonstrated a case of burial stratigraphy at Pachacamac. Working at the base of the adjacent Temple of Pachacamac, Uhle discovered Inca and other late graves overlying those containing



Coastal Tiahuanaco- and Epigonal-style pottery. These two latter styles were not encountered in the above-mentioned cut below the Temple of the Sun, but there is considerable stylistic and other evidence indicating that they fall temporally between the Inca and the Pachacamac Interlocking periods. Thus, to the Inca, Epigonal, and Coastal Tiahuanaco sequence encountered at this site by Dr. Uhle, there is now added a long occupation by a local people who made the earlier Pachacamac Interlocking-style pottery as well as large structures of hand-molded adobes.

Following the work at Pachacamac, Dr. Willey and Mr. Corbett moved to the Chancay valley north of Lima where a series of similar stratigraphic cuts were made. Here, at Cerro de Trinidad and elsewhere Dr. Willey encountered deposits where several meters of consolidated refuse containing pure Chancay White-on-red pottery lay undisturbed beneath refuse containing Interlocking-style pottery. This was also confirmed by finding a large White-on-red tomb under undisturbed floors of the Interlocking period. Pachacamac Negative sherds were also found in the White-on-red deposits. These discoveries not only add earlier coastal types of ceramics to the Pachacamac-Chancay sequence but also, on the basis of clear superimposition, reverse Uhle's earlier conclusion that White-on-red ceramics were intrusive in Interlocking tombs and were therefore later. The depth of the Pachacamac and Chancay refuse deposits, over 30 feet at the former site, and the great abundance of potsherds from all levels, convincingly demonstrated the great possibilities awaiting the refuse-heap potsherd stratigraphic method which, until the present, has rarely or never been successfully employed in Peru:

Space is lacking to do more than mention other excavations carried on by Dr. Willey and Mr. Corbett in the ancient shell heaps of the valleys of Supe and Ancon. Here, incised pottery of the Early Ancon-Supe (or Coastal Chavín) type was found in refuse deposits extending to depths of 9 meters. Owing to the war, analysis of the materials from these careful stratigraphic excavations has not yet been possible. However, there remains little doubt as to the great antiquity of this Early Ancon-Supe style or concerning its basic relationship to the Chavín style in the central highlands, the Cupisnique style of the north coast and the Cavernas style on the south coast. In addition, graves of this period were encountered, as well as structures containing simple altars that apparently represent the earliest temples yet known in coastal Peru (pl. 30). Finally, it should be added, other cultural deposits were encountered at Pachacamac and elsewhere that appeared to be lacking in pottery, strongly suggesting a pre-ceramic early coastal period that awaits clear scientific definition.

Returning now to the second aspect of Project 8, under Dr. Lothrop, Dr. Marshall T. Newman attacked the third regional archeological need mentioned earlier. Beginning with a study of the crania and other skeletal parts from the Paracas site in the Museo de Anthropología in Magdalena, Dr. Newman continued studying a number of other skeletal collections for which data were available. To facilitate this work, and to integrate it with period determinations based on actual stratigraphy, he was invited to take charge of the removal and later study of all skeletal material encountered in the stratigraphic excavations being carried on under Project 3. As previously indicated, these ranged from Inca to the earliest known Early Ancon times, including a large series from a tomb of the Interlocking period encountered below the Temple of Pachacamac. This freshly excavated series of some 324 skulls and other skeletal parts was thus drawn from various definite periods across the entire span of known coastal Peruvian prehistory. Preliminary reports suggest that, with the exception of a few long-headed varieties in the latest period, the population involved one basic physical type. Cranial deformation began in the earliest period (Early Ancon-Supe or Coastal Chavín), but the custom was abandoned in the latest era. Further comments must await full presentation of the evidence but it is worthy of note that a study like this producing a long historical perspective on Indian physical types from stratigraphic levels is almost unique in the annals of South American archeology. Obviously, the present work is a mere sample of what should and must be accomplished in this regard, but it does demonstrate the practicability of the combined attack.

#### NORTHERN COAST OF CHILE

The northern coast of Chile is an area of much promise archeologically, deriving its major scientific interest from the fact that early human occupation contemporary with an extinct fauna has been recorded to the south of this region (Bird, 1938), and high agricultural civilizations were located to the north and to the east. Despite the limited pioneering work of Latcham and Uhle, both of whom made claims of finding ancient or paleolithic horizons, the area has never been intensively worked. Hence the age and nature of the coastal deposits were not clear nor was the exact manner in which the bordering horticultural civilizations affected the coastal populations known. For this reason Project 4, with the nominal direction of Dr. Wm. Duncan Strong, but under the direct field supervision of Junius Bird, of the American Museum of Natural History, spent over a year in intensive excavation in coastal sites between Arica



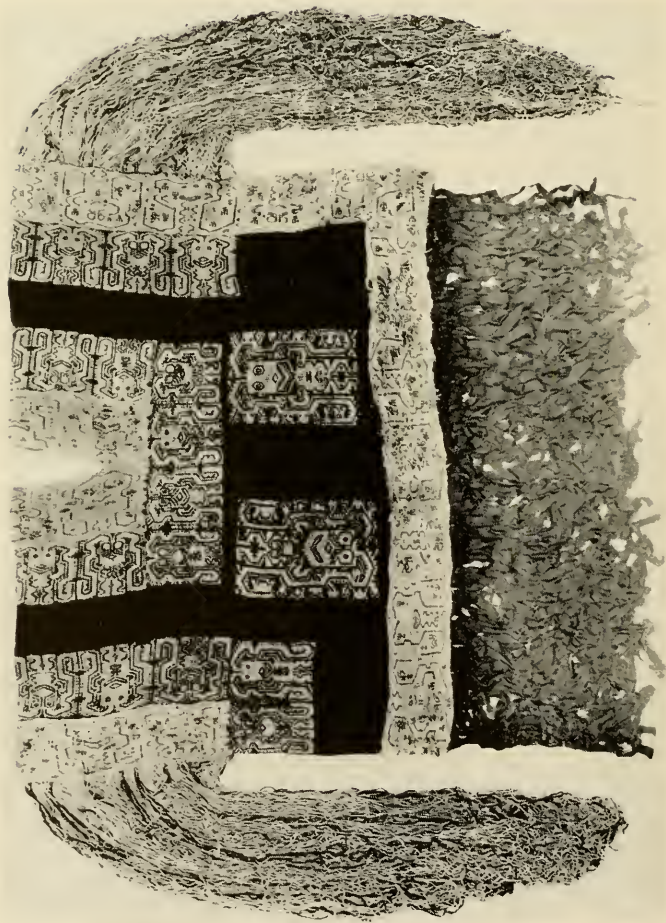
PLATE 30

Upper: Ancient shell-mound site at Aspero, near Puerto de Supe, Peru, looking across the occupational refuse. Pottery was very rare at this ancient site.

Lower: Rock and mud wall structure of the Early Ancon-Supe culture, including a clay "altar." Aspero, Puerto de Supe. Probably the oldest religious structure yet known on the Peruvian coast.



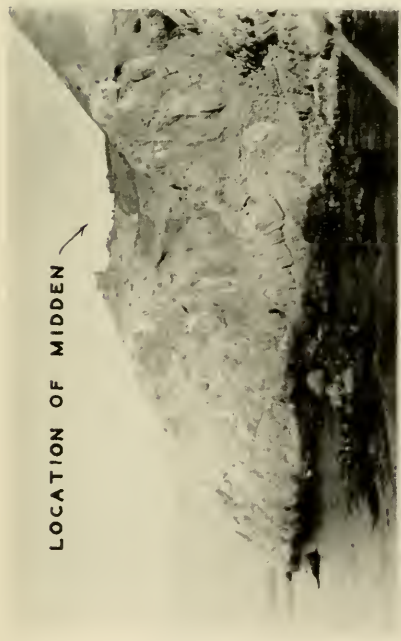




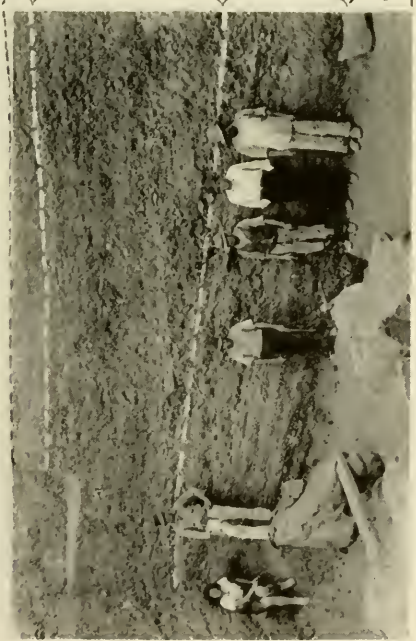
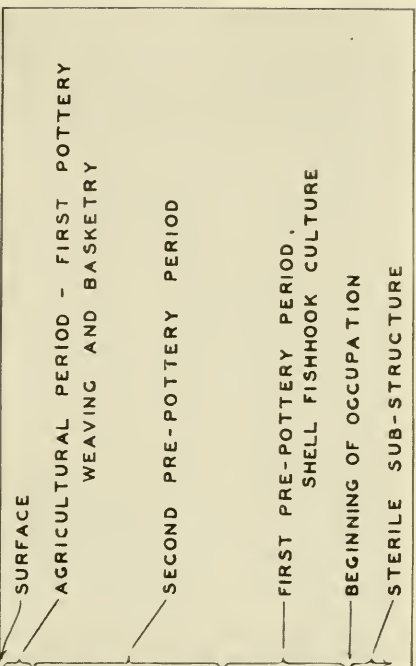
Specimens from the Paracas site near Pisco, Peru.

Left, beautiful poncho or embroidered shirt of the Necropolis culture. This represents one of the greatest textile arts in the world. Right, upper, incised and painted feline vessel of the Cavernas ceramic type; lower, vessel of the Necropolis ceramic type. Courtesy of the American Museum of Natural History.

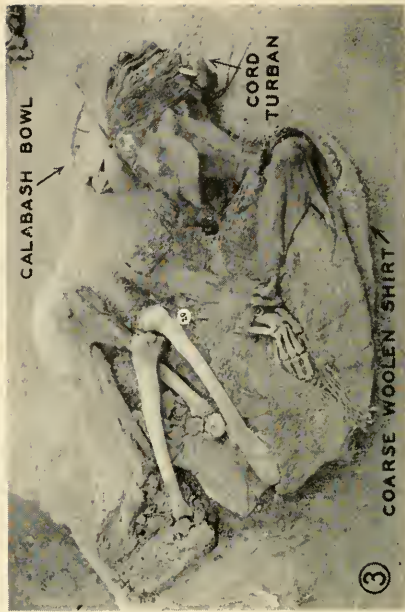
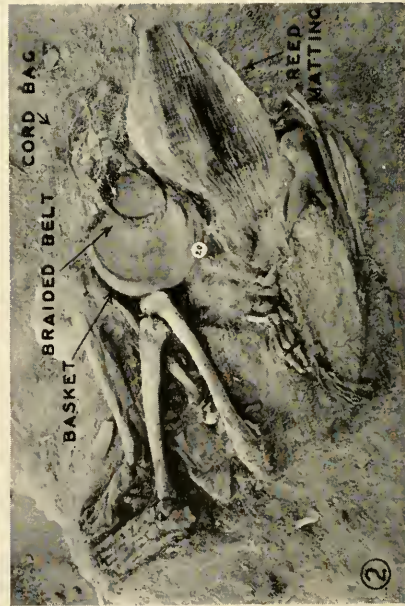




LOCATION OF MIDDEN



Punta Pichalo, Pisagua, Chile, showing location, excavation, and structure of the midden.



1-3, stages of uncovering a first agricultural-period burial, Punta Pichalo, Pisagua, Chile; 4, reinforcing large basket of the same period. Note parts of seven graves and wooden grave markers.

and Coquimbo. This party included Mrs. Bird, Srta. Grete Mostny, and Sr. Hugo Yavar. Excavations were made at Arica, Punta Pichalo, Taltal, La Serena, and Coquimbo.

Because of the factors governing primitive life in this area, the first three locations yielded an unusually complete record of the entire period of human occupation. The evidence shows that the coast of the desert area was first settled by a simple fishing population whose artifacts are surprisingly uniform through a considerable period of time at widely scattered localities. This culture utilized two types of fishhooks, one cut from shell, the other a composite hook; bowls cut from lava; barbed harpoons with pressure-flaked stone points; and coarse percussion-flaked stone tools. Additional data indicate that this early culture flourished from Arica to south of Valparaiso with its influence possibly reaching Puerto Montt.

A sharp break in the cultural pattern implies the arrival of a second nonagricultural fishing population utilizing distinctly different equipment. As remains of this group are more concentrated in the north, a movement southward from Peru is indicated.

The introduction of agriculture, marked by the simultaneous appearance of corn, cotton, gourds, and perhaps beans, is accompanied by the first use of pottery, textiles, and coiled basketry, though there is the suggestion at one of the Arica sites that agricultural products may have very slightly preceded the other associated items. Again the evidence indicates influence from coastal Peru, rather than from the highlands, though lack of knowledge of the archeology of southern Peru prevents accurate comparisons.

Subsequent to the introduction of agriculture, certain changes in pottery styles are apparent and are accompanied by other distinctions in the material culture. Previous collecting in northern Chile has shown the influence or the presence of migrants from the Tiahuanaco culture of the Bolivian highlands, but this is manifested on the coast only by rare artifacts and is without effect on the general pattern. In view of the widespread occurrence of the Tiahuanaco influence, it is significant for general chronology to note that its occurrence in Chile is at levels which are relatively very late in relation to the total period of occupation.

In the Coquimbo-Serena area the excavations indicate that the well-known Diaguita culture arrived there in a fully developed state presumably from Argentina. The same section yields evidence of another distinct culture on the basis of ceramics and associated items which either slightly preceded the Diaguita or was contemporaneous with its first manifestations.



The long discussed problem of a paleolithic-like culture in Chile was shown to lack the support of stratigraphic evidence and to be a misinterpretation of material.

Altogether the results of the field work were highly gratifying and, in addition to the specific data obtained, give a good basis for planning future work.

#### PREVIEW OF RESULTS

The scope of the scientific results attained in the present program will become more apparent with each successive monograph that appears. The full significance of such works, however, will be realized more gradually as the conclusions therein contained find their way into more general treatises dealing with the universal or unique factors implicit in the rise and fall of New World civilization and as these in turn are evaluated against the total background of culture history. This is the ultimate aim of all archeology that is more than a pseudo-scientific cloak for antiquarianism. Here, however, we can only anticipate what some of the more limited results may be.

Today, all good archeologists interpret their results in the same way they dig, that is from top to bottom—from historic layers to pre-historic layers. That is the method actually employed in all the “digs” we have just discussed in such brief form. In the present section, however, the writer assumes a certain license in order more rapidly to canvass the general Middle and South American archeological situation as it stands today. For this purpose we will turn our avowedly tentative scheme (see relative chronological chart, p. 42) over and examine it as to the way in which various cultures, as yet so unevenly known, appear to have developed. We realize full well as we do so that only a blind optimist would believe that this was even the frame of the complete record. From the standpoint of both appraisal and criticism such treatment, candidly applied, should, however, show both recent gains and present lacunae in the cultural record of the New World as it stands today. History may or may not “repeat” itself, but culture process throughout the world seems to many of us to proceed according to as yet dimly perceived patterns which only hard-won knowledge can clarify. When we can finally muster adequate culture-historical facts to permit comparison of patterns of culture change over long periods of human development in widely separated parts of the world we will have advanced a long step forward on our way toward an understanding of historical process. The use of hypotheses, constantly adjusted as objective knowledge increases, seems the most logical avenue of approach to this desirable

end. Without apology, therefore, for what might otherwise seem premature theorizing we proceed.

Theoretically, all anthropologists have assumed that a pre-horticultural mode of life underlies all the agricultural civilizations of the New World as is demonstrably the case in the Old World. Present incomplete evidence bears out this hypothesis at least for the northern and southern peripheries of higher culture in the New World. Recent excavations in both the southeastern and southwestern United States have clearly demonstrated this major sequence in the north although our present time estimates in this regard do not yet synchronize in a thoroughly satisfactory manner for these two areas (see relative chronological chart, p. 42). The present program also adds clear evidence of the same major sequence for the southern periphery of higher American culture. In northern Chile, the present work of Junius Bird has revealed pre-pottery, pre-horticultural horizons that clearly underly more complex horticultural remains on the southeastern coast of the Pacific. In both northern Chile and in the southern United States there is evidence that these pre-horticultural manifestations overlap in time horticultural horizons respectively to the north and to the south.

Archeology supported by the facts of history and ethnology therefore indicates that in pre-Columbian times both Chile and the United States were areas of peripheral lag. The oldest horticultural centers lay farther to the north and to the south, that is, in the middle regions of the Americas. Excluding casual finds such as the associated footprints of humans and locally extinct animals in solidified volcanic ash in Nicaragua, the Punin calvarium and the debatable mastodon and pottery association reported by Uhle in Ecuador, knowledge of pre-horticultural occupation in Middle and South America is as yet sadly inadequate. Bird has previously (1938) presented clear evidence of early lithic horizons associated with extinct fauna in Patagonia, and the present brochure hints at pre-ceramic horizons on the Peruvian coast, but for the vast expanse extending from Peru to northern Mexico we at present know many complex cultural horizons, but little or nothing of their presumably simple antecedents. Certain reasons for this seemingly strange state of affairs will be mentioned in the final section.

One broad cultural manifestation in the rise of New World civilization, however, has at last begun to rear an objective head. This is an apparently very early but developed horticultural horizon now imperfectly but at least stratigraphically known on the Peruvian coast, in Spanish Honduras, Guatemala, the Peten, Yucatan, southern Vera-

cruz, the Huasteca country, and the southern United States. The present Institute of Andean Research program, aimed primarily at determining culture sequence, penetrated to this horizon in northern Veracruz (Project 1) and Peru (Project 3 and, possibly, Project 7). In northern Chile (Project 4) it went much deeper but, as previously implied, the high cultural overlay is not nearly so deep on the peripheries. In many ways this earliest known ceramic horizon resembles Spinden's concept of the Archaic save that that complex as postulated lacked objective evidence for either homogeneity or demonstrable antiquity.

It is too soon to claim that all the lowest horizons shown on the relative chronological chart (p. 42) between central Peru and the southeastern United States are related in time and culture. However, there are striking resemblances between several of them, and it is significant that the various archeologists who have recently worked these horizons out by methods of "dirt" stratigraphy all agree as to their relative ages. This is not the place to argue the case for direct cultural relationship between all these far-flung, emergent horticultural horizons in the New World. Specific data on several of them are as yet unavailable.

However, the present writer has been long impressed with the specific, as well as the general resemblances between the two of these horizons with which he has had most intimate contact. These are the Early Ancon-Supe (Coastal Chavín) horizon in Peru and the Playa de los Muertos horizon in Honduras. Both these spatially widely separated, but apparently generally synchronous, horizons have pottery decorated with broad-line incised bird and other designs. In addition to the predominant use of incising, both used rocker-stamp decoration and both wares are well polished. The same holds true in regard to incised lines occasionally filled with paint. Both horizons likewise contain a few pieces with surfaces partially decorated with crude paint applied in what appears to be an experimental fashion. Closely associated in time with these two old horizons is the trait of negative painting, though in both coastal Peru and Honduras pottery of this type seems to be slightly later than the unpainted incised ware. Resemblances in regard to hand-modeled figurines and other traits link the two culture complexes. Finally, the Early Ancon-Supe ceramics show a clear relationship to those of the Chavín, Cupisnique, and Cavernas, and probably the Pucara, cultures in Peru. Many of these same characteristics, open bowls, varied lip shapes, predominance of incising with occasional use of paint-filled lines, as well as the extensive use of the feline design in stone carving, appear in the ancient



San Agustín horizon in southern Colombia. Similarly, the Playa de los Muertos horizon in Honduras is apparently related to the Mamom horizon underlying the culture of the Maya, the Lower Tres Zapotes horizon in Veracruz, and probably other early horizons farther to the north (see relative chronological chart, p. 42). It is interesting, whether significant or not, that Marksville (Burial Mound II) sherds from that relatively early horizon in the southeastern United States, when intermingled with those of the Early Ancon period in Peru in the majority of cases cannot be distinguished by experts. The fact that Ekholm finds generic resemblances between a pottery complex of his Huasteca II and the earlier ceramic wares of the Mississippi Valley is perhaps significant in this regard. Enough has been said to indicate that here is a problem similar to that originally raised by Spinden, but, it should be noted, one that is based on stratigraphy, not selection. If we can demonstrate cultural relationship between all, or a majority, of these emergent New World ceramic horizons we must still explain how such a condition arose. Did the cultural impetus spread from north to south or, vice versa, do we have to call in the concept of convergence under similar ecological and cultural conditions? This we need not, and cannot, answer here, but the problem is becoming very real.

We have mentioned evidences of religious cults as indicated by the comparatively complex art manifestations of the emergent horticultural civilizations in both South and Middle America. It would be fascinating to attempt to trace the spread of certain of these motifs such as the often overlapping-fanged feline, i.e., jaguar or puma, "god," represented in slightly variant forms from Chavín, Nazca, Tiahuanaco, and Cavernas through San Agustín, Honduras, and the Maya and "Olmeca" country on to the north, but our data on time and so many other factors are still too incomplete. Complexity plus differential survival makes this field a theorist's paradise where more conservative culture historians fear to tread, at least until a trail of stratigraphic time sequence has been blazed for their guidance. Hence we will merely mention the problem here and proceed with the general discussion, deviating from a strict criterion of time to one of space. From this point on, the northern excavations carried on by the Institute of Andean Research will be considered first, proceeding toward those in the south.

One of the numerous problems North American and Mexican archeologists have not solved is that concerning the exact relationship between the prehistoric cultures of Mexico and those of the Pueblo and lower Mississippi areas in the United States. The present Insti-

tute of Andean Research excavations in both eastern and western Mexico are significant in this regard. Ekholm's excavations near Tampico give promise for the first time of linking early levels on the east coast of Mexico with those of the lower Mississippi Valley (relative chronological chart, p. 42, Huasteca II and Burial Mound II). Until detailed ceramic comparisons are available it is impossible to say how convincing and specific these linkages may prove to be. The suggested time lag of more than 500 years between the south and the north, while not unexpected, like the position of the Burial Mound I cultures in this picture, remains to be explained. Phillips (1940) and others have shown that late prehistoric horizons in the southeastern United States, particularly in the Middle Mississippi culture, contain many Mexican elements. Ekholm's preliminary announcement suggests that similar southern connections may be demonstrated as basic and early as well as relatively superficial and late. Obviously, the record will remain incomplete until competent stratigraphic work is accomplished between Tampico and the Mississippi Delta but recent work at both ends of this important coastal strip already indicates that the generally accepted hypothesis of high cultural origins in Middle America can be demonstrated objectively once careful digging is substituted for speculation.

Kelly points out that, while the archeological picture in western Mexico is beginning to assume shape and depth, the known connections with the prehistoric southwestern United States are still tenuous. The earliest horizons yet known in western Mexico correlate with Teotihuacan III (ca. A.D. 800) in the Valley of Mexico; hence, according to present time estimates, these seem too late to have played any fundamental, formative role in the development of the prehistoric Southwest. Either older horizons remain to be found in western Mexico or other contact corridors existed. More specific work, not only in western Mexico but in Zacatecas, Durango, Chihuahua, Coahuila, and Tamaulipas as well, will be needed to solve this problem.

The present and past excavations of Osgood, Rouse, and Howard throw considerable new light on another important two-way avenue of New World migration that has hitherto been more often the subject of scientific or other speculation than the scene of careful stratigraphic excavation. This is the Antillean island corridor between northeastern South America and southeastern North America. Howard and Osgood in the Orinoco region of Venezuela have not only delineated some six major ceramic areas in that country but have also established a ceramic sequence at Ronquín on the middle Orinoco River. At Ronquín, pottery from the earlier horizon shows

close relationship to the earliest known cultural horizons in Trinidad and Puerto Rico. The earlier of three periods at Lake Valencia in central Venezuela, earlier defined by W. C. Bennett, A. Kidder, II, and Osgood, also shows relationship to the Orinoco-Trinidad series. This series of excavations establishes a demonstrable archeological connection between the Antilles and the southern continent which, in turn, can be correlated with other linguistic and archeological evidence demonstrating the occurrence of two Arawak occupations in Cuba, preceded by a pre-ceramic pre-horticultural horizon termed the Ciboney. This Ciboney culture, on the basis of similarities in shell artifacts, may have been derived from Florida. Thus, there is now objective evidence suggesting the possibility of an early north-to-south movement, and still other evidence clearly indicating at least two later south-to-north movements over the Antillean island bridge. These are important additions to our knowledge of pre-Columbian migrations and cultural movements between the two Americas. It is equally interesting that the present evidence indicates no extensive contacts between the Antilles and the closely adjacent area of Central America proper to the west and south.

The present program of the Institute of Andean Research was not directly concerned with what might be called the "heart" region of Middle America. This extremely important area extending from the Valley of Mexico to Spanish Honduras was purposely omitted in the present scientific campaign because of the greater amount of research already completed or in progress here (see relative chronological chart, p. 42) than in the areas selected. Obviously this is a strictly relative judgment for even in Mexico itself there are only a very few areas which might be classified as thoroughly worked from the archeological standpoint.

On the borders of the "heart" area and practically unworked from the standpoint of stratigraphic excavation and analysis is the Republic of El Salvador. As a border province of the Maya and a center for the Pipile culture this region is highly important. The work of the Institute of Andean Research expedition under Longyear at Los Llanitos and particularly Tazumal has yielded a demonstrable sequence which can be correlated with that of the Maya at the famous city of Copan and elsewhere. How closely these cultural horizons can be correlated with similar sequences earlier established in western Honduras must await the presentation of the data. However, an excellent beginning has been made for further work of this sort extending into as yet unknown eastern El Salvador, southern Honduras, and Nicaragua. Until this has been accomplished Central America,



from El Salvador to Panama, will remain an archeological "terra incognita" despite the host of undocumented specimens from the area that fill many museums. It is obvious that as far as pre-Columbian connections across the isthmus are concerned we are still in the inferential stage and will remain there until much more detailed excavations have been accomplished in many parts of Central America.

Unfortunately this same state of affairs is also true in regard to northern South America. Thus, while there are both general and specific resemblances in ceramic wares, metal work, and many other features between Colombia, Panama, and Costa Rica, the exact nature and depth of these connections cannot yet be formulated. The Santa Marta culture, like the rich Coclé culture in Panama, is apparently just pre-Conquest. The same late dating applies to much of the rich though scattered Chibcha material on record, but excavations showing superimposed culture sequence have not yet been reported. With the exception of the Chibcha proper and possibly Santa Marta, concentrated village sites are unknown in Colombia. That this is not entirely due to the paucity of scientific excavation is indicated by the results of Project 6. Here two North American archeologists, Bennett and Ford, both masters of stratigraphic techniques, aided by the best Colombian archeologists, spent a year in the Cauca valley near Cali and elsewhere seeking sites with superimposed culture layers. None were found although very important material was turned up and, as previously mentioned, an inferential culture sequence established. This record of scattered village sites is undoubtedly significant though exactly what its significance may be remains to be determined. It is hard to believe that long-occupied stratified sites do not occur in this highland area but, in the Cauca valley at least, they seem to be very rare. Stone statues and ceramic types at San Agustín, however, do seem to link this and related Colombian cultures with some of the oldest horizons in Peru.

In Ecuador, to judge from the results of the Institute of Andean Research expedition Project 9B, which was in the field a shorter time than any of the other parties, there is no lack of stratified sites with abundant ceramic and other materials. The Cañar valley excavations of Collier and Murra reveal a sequence covering approximately 500 years and involving the cultures of the Cañari, the Puruhá and, finally, the Inca. They also tend to disprove Uhle's theory of any direct Maya influence or migration in this area and to condense greatly the chronological sequence proposed by Jijón y Caamaño. It is of interest but again of uncertain significance that a type of negative-painted ceramics, occurring in late pre-Conquest horizons

in Ecuador, bears some resemblance to similar wares in the earlier Middle Huamachuco and still earlier Interlocking periods in Peru. Similarly the Cerro Narrío fine-line incised wares (pl. 19) bear at least superficial resemblances to the broad-line incised Chavín ceramics. If these ceramic and stylistic resemblances should prove to be significant (see relative chronological chart, p. 42) they would suggest either that there was much greater age and cultural depth in prehistoric Peru than was the case in Ecuador or Colombia, or that the present time estimates for Peru are greatly exaggerated. To draw any such conclusions on the basis of the present incomplete evidence would be absurd, but it is not absurd to point out that even these few excavations open up real problems which more excavations of a similar nature can undoubtedly solve.

McCown's work, in conjunction with that earlier accomplished by Uhle, in the northern highlands of Peru establishes three periods marked by distinctive ceramic and architectural styles. The earlier of these, Middle Huamachuco, ties in through ceramic linkages with the Middle period both on the north coast and in the central highlands of Peru (see relative chronological chart, p. 42). The characteristic white paste ware of this earlier period at Huamachuco is of Marañon type. Despite the known distribution of this type of pottery we are still in the dark in regard to the extent of its eastern distribution and possible origin. The same is true in regard to the incised and negative-painted wares which may prove to be highly significant in working out various relationships existing between Middle America, Colombia, Ecuador, and Peru. To the south and west there is general cultural linkage indicated between Middle Huamachuco, the Callejón de Huaylas, and the Peruvian north coast areas in the common occurrence in all of the "cursive-painted" style. The northern highland, as known at present, is distinctive in lacking true Inca and Tiahuanacoid, as well as certain other ceramic styles which are earlier than Middle Huamachuco. Huamachuco stone sculpture, as recorded to date, seems relatively late and very distinctive but undoubtedly can be tied in with a sequential highland Andean pattern when more work has been accomplished in this regard.

The outstanding result of the work of those connected with Project 7 in the southern highlands of Peru would seem to be the discovery by Rowe of the Chanapata culture differing from and underlying the widespread Inca pattern in the Cuzco region. Similarly the mutual exclusiveness of the Pucara and Classic or Early Tiahuanaco cultures in the Titicaca basin is an interesting point. As Kidder, II, points out, both appear as basically related but independent phases of an

early Titicaca culture. The fact that specific traits and trade objects from Tiahuanaco are lacking in major areas of the adjacent Titicaca basin does argue against regarding this famous ruin as the center of an early political empire similar to that of the Incas. The wide spread of Tiahuanacoid styles on ceramics and textiles found over great parts of Bolivia, Peru, and adjacent areas will probably have to be explained in some other manner than political conquest. Other centers for diffusion such as the Nazca-Pacheco region must be considered. Mrs. Tschopik's determination that the majority of the famous "Chullpa" sites are of Inca date also argues strongly against previous assumptions that there was a definite pre-Inca "Chullpa" period of which these picturesque burial towers were characteristic. The origins of Inca culture itself are still obscure. In general, the results of Project 7, in conjunction with those attained in earlier work of the Peabody Museum of Harvard University in this area, tend to shorten the hitherto accepted time span for the northern highlands. Kidder, II, would at present be inclined to put the terminal date of Pucara and Chanapata close to A.D. 900. Here it is placed several centuries earlier (see relative chronological chart, p. 42) to fit in with Bennett's general scheme for Tiahuanaco and Bolivia. The present writer agrees with Tello in regarding Pucara as on the same level as Chavin. All of us would agree, however, that any and all, other than relative, pre-Inca dates in Peru are as yet pure guesswork.

In regard to the Pacific coast of central Peru and northern Chile (Projects 3 and 4) perhaps the most outstanding discovery was the vast number and the great depths of the ancient refuse heaps in these regions. Middens were encountered containing evidence of human occupation ranging from before the advent of horticulture and pottery making up to the time of the late Inca occupation. In northern Chile, Bird worked out at least two distinct pre-agricultural horizons, and a number of pre-ceramic sites were noted on the Peruvian coast although time was lacking to investigate them with any thoroughness. Both expeditions found promising leads indicating that linkages between the various horizons in central Peru and northern Chile could undoubtedly be established once detailed stratigraphic work has been done in southern Peru. The length of the time sequence in coastal Peru, to judge by the great depths of the various ceramic cultural strata, appears to be impressive. The same is true of the pre-ceramic deposits in northern Chile. In coastal Peru these extend from the Early Ancon-Supe horizon to Inca times. The former horizon alone has deposits 9 meters in depth, and the broken sequence from Inca through Interlocking at Pachacamac has a depth of 10 meters. At



Ancon, subsequent to our exploration there, we estimated that at the location giving the most promise of an unbroken sherd sequence it might be necessary to dig pits down to 20 meters in depth. Obviously there is a vast amount of stratigraphic work still to be accomplished on the Peruvian coast, and this makes it all the more surprising that the present objectively determined culture sequence there and in northern Chile is not more badly broken than appears to be the case (see relative chronological chart, p. 42, Peru, Central Coast, and Chile, North Coast).

Considering this human record from earliest to later times, a number of important gaps or breaks in our knowledge appear, the first of which is the absence in the present record of lithic cultural remains associated with an extinct fauna such as occurs in Patagonia. Also lacking on the Peruvian coast is complete evidence for pre-ceramic horizons such as Bird has clearly shown to be present in northern Chile. Likewise, the early stages of the Early Ancon-Supe or Coastal Chavín culture of the Peruvian littoral are not clear although superficial comparison of the remains from Supe with those from Ancon and Paracas suggests such stages are present but have not yet been defined. Even more striking is the present break between the Early Ancon-Supe culture and that of the White-on-red horizon which follows it. From White-on-red times to the Inca period the culture sequence of the central coast, though thin in places, is relatively clear. It is interesting to note that work accomplished by Projects 3, 4, and 7 all tend to place the various Tiahuanacoid horizons later in time than was formerly considered to be the case. Considering Kidder's belief that all the highland cultures with which his party were concerned were relatively late, it may be that this is an indication of a greater age for coastal than for highland cultural origins. Such a hypothesis is in direct contrast with the beliefs of Tello and clashes with certain generalizations put out by students of agricultural origins, but in the present state of our actual knowledge it is an interpretation that cannot be ignored. Such, in very tentative and impressionistic form, are some of the more outstanding results attained by the field program of the Institute of Andean Research in 1941-1942.

#### FUTURE VISTAS

The great vistas in time and space revealed by the present program make it abundantly clear that the field of Middle and South American archeology is rapidly ripening, with promise of a rich scientific harvest. It has always been a field of superlative prehistoric interest, but only

recently has scientific work been envisaged on sufficiently broad and clean-cut lines to give definite promise of more sweeping and valid culture-historical results. There seems little doubt that when the blight of the present war is removed this type of research work will surge forward in all the American republics.

In any such program it is certain that the scientists of the United States will cooperate even more fully in the future than they have in the past with their colleagues of the other republics. The groundwork for such cooperation has been well laid, and the widely ramifying results of such correlated scientific work will be of both practical and intellectual benefit to all concerned. Further, excavations in carefully chosen sites should finally solve once and for all the problem of whether the higher civilizations of the New World were truly autochthonous or may in part have been derived from Old World sources. Most North American anthropologists tacitly assume the former hypothesis to be true, but the evidence in this regard is still too inferential to be completely satisfying. If we desire to compare the New World cultural configurations now emerging as the result of painstaking field work in human geography, ethnology, and archeology with the past cultures of the Old World, we must know exactly their time relationship and degree of dependence one upon the other. Such knowledge and such intercontinental culture-growth comparisons are one of the major aims of archeology as a science.

Interlocked with this problem is another concerning the nature and places of origin of the earliest stages in the rise of New World agriculture. Only the most careful combined work of archeologists and plant geneticists can ascertain such facts. American food plants feed a large part of the modern world, and their history is more than coincident with the rise of both ancient and modern civilizations. Basic problems of plant genetics are involved in this record. Abundant plant remains from sequential archeological horizons were obtained in several of the projects herein discussed. The comparative study of these materials awaits the time when American scientists can once more concentrate upon the arts of peace. Equally significant may have been the role played by irrigation in both the Old and New Worlds. Further explorations along stratigraphic lines promise rich rewards not only in regard to agriculture but in knowledge concerning many other correlated arts and industries as well.

Once sufficient and careful stratigraphic work at key points has established our New World time scale, the great task of excavating major ruins can really begin. So far we have attempted this in only

a very few of the more obvious ruins, and even here we have only scratched the surface. As such work proceeds we will at last begin to understand the nature of the highly individualized local cultures of South, Middle, and North America in contrast with the equally widespread artistic and religious cults whose remains appear to link such widely separated areas. These stylistic interrelationships involve complex and significant factors of both local development and culture diffusion through space and time. Equally important, but only to be scientifically evaluated when the cultural facts are placed in proper time perspective, are the differential effects of environment and culture throughout the long and richly variant American cultural scene.

As the status of New World prehistory changes from a condition where ordered facts are few and speculation is abundant, to one where order and knowledge reign, scientific induction can at last replace undue speculation. We need not shed tears over the time when speculation with all its fascination shall have entirely vanished from the archeological stage, for that time will probably never come. Nevertheless the time is coming, and in the not too distant future, when scientific induction will largely replace its dreamier armchair confrere save in those border confines where the inevitable gaps in the record of human culture may allow the latter to linger. Today, however, it is a strange thing that most social scientists and even some archeologists, who certainly should know better, often dolefully lament the fragmentary nature of the human prehistoric record at a time when they have not yet even begun to exploit systematically its available riches. Certainly in Middle and South America the day of scientific archeology is at its very dawn, and one has reason to suspect that this is probably true of most of the world. The time is coming when the rich ethnological and archeological record of the New World can be compared in full detail and time perspective with similar records from Europe, Egypt, Mesopotamia, India, China, and Siberia. When such comparative data are in hand the generalizations that will emerge may well revolutionize our concepts of culture history and culture process over the millennia. We must first win a workable peace in order to obtain such world-wide data, but it is also possible that the attainment of an understanding of these long-range, cross-cultural processes may aid in the maintenance of such a desirable state of human affairs. It is quite as necessary for both scientist and statesman to understand the interrelationships of man and culture through time as it is to appreciate culture patterning in terms of space. Relativity applies to human affairs quite as much as it does to the realm of the physical sciences.



## NOTE ON RELATIVE CHRONOLOGICAL CHART

This tentative and diagrammatic chart is presented primarily to indicate the general place of the 1941-1942 work of the Institute of Andean Research in relation to previous work accomplished in adjacent or intervening areas. In general, the relative placing of cultural or ceramic periods established or investigated under the present program is in accord with the opinions of the various project directors and supervisors. However, in some cases the writer has perforce or otherwise relied on his own judgment. For this reason he assumes responsibility for the chart as a whole. Outside of the southwestern United States, where tree-ring dating is possible, the present chart suffers from those defects common to all such schemes in areas where exact dating techniques have not yet been developed. Conclusions involving absolute time should therefore not be taken too seriously. Concerning the matter of relative time, however, much study and consultation as well as physical effort in field and laboratory has been expended, hence this aspect of the chart merits more careful consideration. As stated earlier, such a scheme represents merely a momentary hypothesis subject to change with the acquisition of new facts or better-documented interpretations.

No bibliography is attempted since its length would far exceed the bounds of the present brochure. However, for each column of the chart, proceeding from north to south (i.e., from left to right), there are cited one or more sources. Some of these are still in preparation. The final results of the present program can only be fully weighed when all these are available for careful study and comparison. Here we have merely attempted to outline the program as a whole, to suggest what some of its major results appear to be, and to indicate how vast and alluring are the problems that lie ahead.

1. The Southwestern United States: Roberts, 1935.
2. Western Mexico: Kelly (see "Publications resulting from present program," p. 45).
3. Southeastern United States: Ford and Willey, 1941.
4. East Central Mexico: Ekholm (see "Publications resulting from present program," p. 45).
5. Valley of Mexico: Vaillant, 1938.
6. Southwestern Mexico: Caso, 1932, 1935, 1938.
7. Southeastern Mexico: Drucker (in press).
8. Peten and Yucatan: Thompson, 1943.
9. Guatemala: Thompson, 1943.
10. Spanish Honduras: Strong, 1935; Strong, Kidder, and Paul, 1938.
11. El Salvador: Longyear (see "Publications resulting from present program," p. 46).
12. Cuba: Rouse (see "Publications resulting from present program," p. 45).

	Southern UNIAN	PERU (North Coast)	
1500	Remn Pt	Late Chimu and Inca	L
	Regi Pt	Late Chimu	L
	n C Clasi red	Black, white, red	B
1000	Dev Pt	Tiahuanacoid	T
	n ico	Gallinazo	E
	Mod Ba	Early Chimu	I
500	red	Salinar	V
	Bask (pr h	Cupisnique	( E
. D. 100	Earl Cu		





RELATIVE CHRONOLOGICAL CHART OF MIDDLE AND SOUTH AMERICA  
(Horizons investigated in present program are in *italics*)

	(Project 2)	(Project 1)						(Project 10)	(Project 5)	(Project 5)	(Project 6)	(Project 9B)	(Project 9A)	(Project 3)	(Project 8)	(Project 7)	(Project 4)				
	WESTERN MEXICO (Southwestern Jalisco)	SOUTHEASTERN UNITED STATES	EAST CENTRAL MEXICO (Huasteca)	VALLEY OF MEXICO	SOUTHWESTERN MEXICO (Oaxaca)	SOUTHEASTERN MEXICO (Veracruz)	PETEN and YUCATAN (Lowland Maya)	GUATEMALA (Highland Maya)	SPANISH HONDURAS	EL SALVADOR	CUBA	VENEZUELA	COLOMBIA	ECUADOR (Southern Highlands)	PERU (North and Central Highlands)	PERU (North Coast)	PERU (Central Coast)	PERU (South Coast)	PERU and BOLIVIA (Southern Highland)	CHILE (North Coast)	
1500	Renaissance Pueblo <i>Toilman complex</i>	Temple Mound II	<i>Huasteca VI</i>	Astec { V IV III II	Monte Alban V	Cerro de las Mesas Upper II	Mexican Absorption	Mexican Absorption	Maya-Lenca- Itz'at, etc. (Naco-Mexican)		Taino Andean	Chibcha	<i>Inca</i>	<i>Incaic</i> <i>Virochopampa</i>	Inca Late Chimú and Inca	<i>Late Coastal</i> <i>and Inca</i>	<i>Late Inca and Inca</i>	<i>Inca</i>		1500	
	Reservive Pueblo	Temple Mound I	<i>Huasteca V</i>	Astec I-Mazapan	Monte Alban IV	Cerro de las Mesas Upper I			Bay Island I and II		Arawak	<i>Quebrada Seca</i>	<i>Late Cerro</i> <i>Narrio</i>								
	Classic Pueblo <i>Corallito complex</i>	Burial Mound II			Monte Alban III C		Mexican Occupation	Mexican Period	Upper Uluu-Vojca	<i>Late</i> <i>Tasumoi</i>	Sub-Taino	<i>Rio Bofo</i>	<i>Early Cerro</i> <i>Narrio</i>	<i>Late</i> <i>Huamochuco</i>	Late Chimú	<i>Late Chonecay</i>		<i>Late Inca</i>	<i>Local cultures</i>	<i>Arico II</i>	
						Cerro de las Mesas				<i>Tulo</i>	Valencia III II			Black, white, red	Black, white, red	<i>Black, white, red</i>	<i>Middle Inca</i>				
1000	Developmental Pueblo	Burial Mound I	<i>Huasteca IV</i>	Teotihuacan { V IV III II I	Monte Alban III B	Lower II		<i>Las</i> <i>Llanitos</i>		<i>Early Tasumoi</i>	<i>Cayo</i> <i>Redondo</i>	<i>Lower</i> <i>Orinoco</i>	Epigonal	Tiahuanaco	<i>Tiahuanaco</i>	Tiahuanaco	Tiahuanaco	Decadent Tiahuanaco	<i>Arico I</i>	1000	
			<i>Huasteca III</i>		Monte Alban III A		Tepeu	Pamplona			Ciboney	Valencia I	Narino					Derived Tiahuanaco	<i>Pichilo II</i>		
	Modified Basket Maker				Monte Alban II	Cerro de las Mesas Lower I	Tankol	Amatle	Lower Uluu-Vojca (Polychrome)		Guayabo Blanco		Quimbaya	<i>Middle</i> <i>Huamochuco</i>	Wilkawain Tiahuanaco	Gallinazo	<i>Early Lima</i>	Nasca V	Classic Tiahuanaco	<i>Pichilo I</i>	
							Esperanza					Tierradentro		Recuay	Early Chimú	<i>Interlocking</i>	Nasca B	<i>Chanopata</i>	Chiripa	<i>Picara</i>	
500	Basket Maker (pre-pottery horizon)	Eastern Archaic  (pre-pottery horizon)	<i>Huasteca II</i>	Middle Cultures { Culcuelco Ticomán Copilco Zacateco	Monte Alban I	Middle Tres Zapotes		Miraflores	Early Uluu (Bichrome)			San Agustín	White-on-red	Salinar	<i>White-on-red</i>			Early Tiahuanaco		<i>Late</i>	500
			<i>Huasteca I</i>			Lower Tres Zapotes	Mamom		Early Vojca (Monochrome)					Cupisnique	Highland Chavin	<i>Coastal Chavin</i> <i>Early Ancón-Supe</i>		Paracas { <i>Necropolis</i> <i>Cavernas</i>		Pre-pottery horizons	



13. Venezuela: Osgood (see "Publications resulting from present program," p. 45).
14. Colombia: Bennett and Ford (see "Publications resulting from present program," p. 46).
15. Ecuador: Collier and Murra (see "Publications resulting from present program," p. 46).
16. Peru, North and Central Highland: Bennett (mss.); McCown (see "Publications resulting from present program," p. 46).
17. Peru, North Coast: Bennett, 1939; Larco Hoyle, 1941.
18. Peru, Central Coast: Strong, Willey, and Corbett (see "Publications resulting from present program," p. 45).
19. Peru, South Coast: Kroeber, 1926, 1927; Tello, 1929, 1943.
20. Peru and Bolivia: Bennett, 1934; Kidder, II, et al. (see "Publications resulting from present program," p. 46).
21. Chile, North Coast: Bird (see "Publications resulting from present program," p. 45).

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